



College AND UNIVERSITY Business

**FEBRUARY 1953: Educational TV Policy ★ Symposium on
Purchasing Technics ★ Unit Cost Accounting ★ Educational
Questionnaires ★ New Libraries ★ Food Service Accounting**

The measurement is always right with Honeywell Controls



ACCURACY in mixing and blending the right proportions is a prime requisite in the laboratory, just as it is in school control systems. These controls must supply the correct amount of heat and fresh air, if healthful, comfortable temperatures are to be maintained in the classroom.

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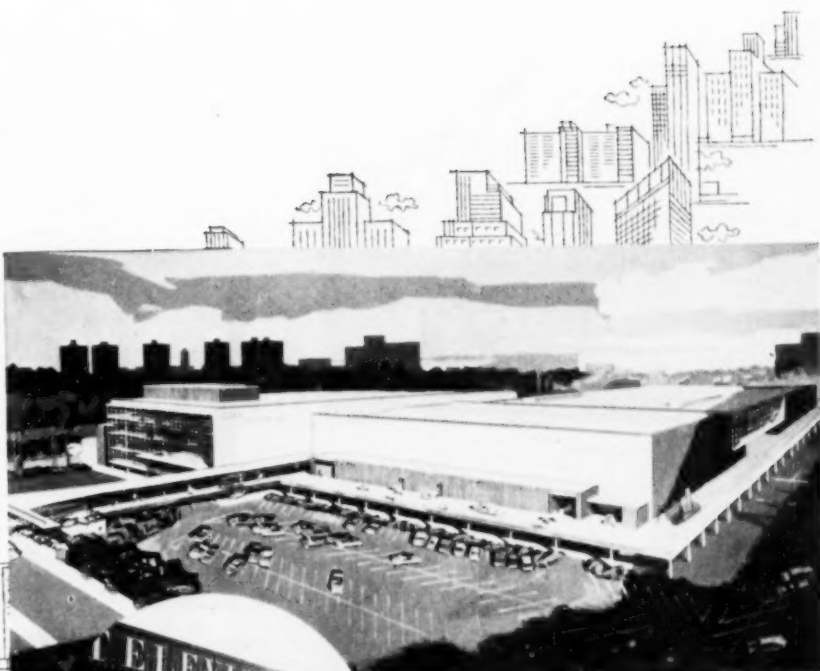
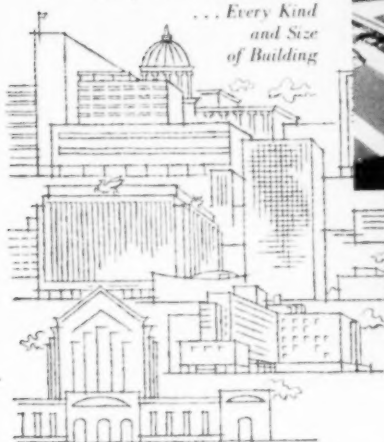


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... Every Kind
and Size
of Building



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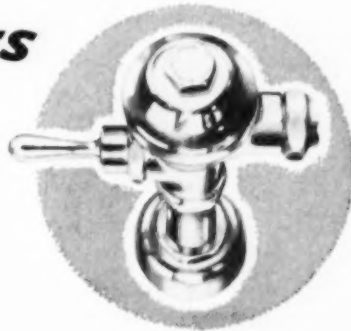
unhampered movement of personnel, properties and scenery. The project will include a large office building, operations building, stores and restaurants. The first section, pictured above, is now in use. This, *the first building of its kind ever designed*, is fully equipped with **SLOAN Flush VALVES**, famous for efficiency, endurance and economy—more proof of preference that explains why...

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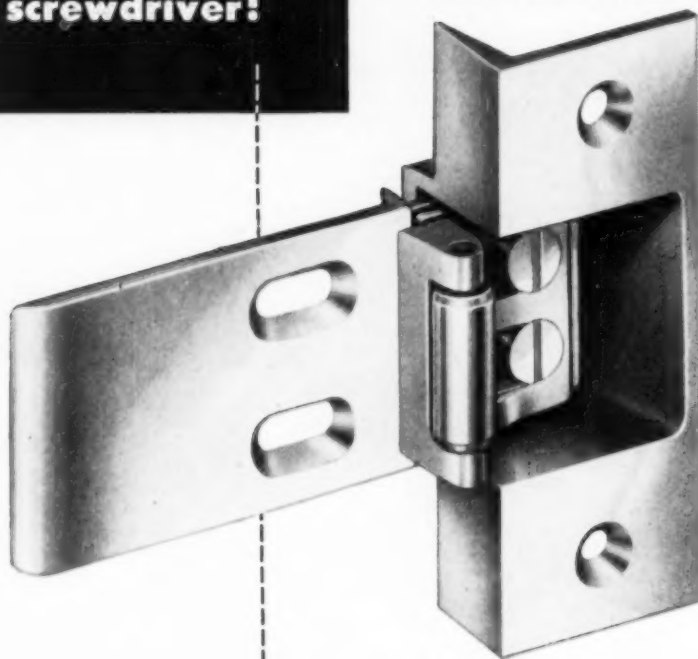
Write for completely descriptive folder



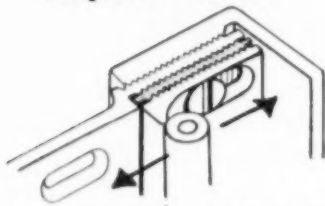
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You don't need a
carpenter... just
a screwdriver!**

Von Duprin

DUAL-ADJUSTABLE ROLLER STRIKE

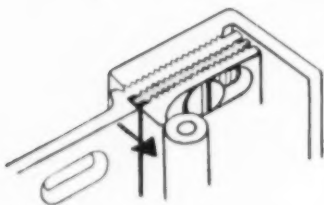


Adjusts in or out



Simply loosen screws and adjust roller strike to desired position.

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Remove screws, roller strike assembly, and insert shims as needed.

• The Von Duprin Dual-Adjustable Roller Strike can be quickly adjusted to compensate for doors warped as much as $\frac{3}{8}$ ". Designed for Von Duprin rim-type devices on single doors, or double doors with a mullion. Antifriction roller is supported on monel metal axle. Entire strike is drop forged.

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There's a Von Duprin exit device for every installation ... and an experienced Von Duprin representative ready to bring the full facts right to your desk. For the name of the Von Duprin "Exit Specialist" nearest you, write Vonnegut Hardware Co., Von Duprin Division, Indianapolis 9, Ind.



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FEBRUARY 1953

FEATURE ARTICLES

- | | |
|---|----|
| Is Academic Freedom Really Being Threatened?
FRANCIS H. HORN | 17 |
| Policy and Station Planning for Educational TV
LORING M. THOMPSON | 19 |
| The Loyalty Oath and the Courts
T. E. BLACKWELL | 39 |
| Library for a New College
HOWARD H. MORGRIDGE | 40 |
| Science and Library Buildings Are Combined
HERBERT THIEN | 43 |
| Cost Accounting Can Save the College Money If Properly Used
WILLIAM E. ELMORE | 45 |
| Is the Educational Questionnaire Overdone?
R. G. BUCKLEY | 49 |
| Tools for Control of Food Costs
ALTA B. ATKINSON | 50 |
| Accounting System Is Necessary Tool for Dining Service Control
KURT M. HERTZFELD | 51 |

PURCHASING TECHNICS

- | | |
|---|----|
| 1. In-Service Training for Purchasing
LAWRENCE L. WHALEY | 24 |
| 2. Dormitory Furnishings
CARL B. OPP | 27 |
| 3. Esthetic Values in Residence Hall Furnishings
HENRIETTA M. THOMPSON | 31 |
| 4. Office Equipment and Supplies
M. T. TRACHT | 35 |
| 5. Maintenance and Housekeeping Supplies
RUSSELL E. TILT | 37 |

- | | |
|---------------------------|----|
| AMONG THE AUTHORS | 4 |
| QUESTIONS AND ANSWERS | 6 |
| LOOKING FORWARD | 18 |
| NEWS OF THE MONTH | 54 |
| NAMES IN THE NEWS | 62 |
| DIRECTORY OF ASSOCIATIONS | 70 |
| CLASSIFIED ADVERTISING | 72 |
| WHAT'S NEW | 75 |
| | 3 |

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Among the Authors



L. M. Thompson

LORING M. THOMPSON, assistant to the president of the University of Toledo and associate professor of industrial engineering, outlines in detail on page 19 the important factors to be considered by a college or university in making its plans for development of educational television. Prior to joining the University of Toledo staff, Mr. Thompson had served from 1946 to 1949 as executive assistant to the president of the Associated Colleges of Upper New York at Plattsburg. During the war he served as a commissioned officer in the U.S. Naval Reserve and before that had been on the staff of the Northeastern University in Boston as instructor in industrial administration and research assistant in the bureau of business research. He has contributed frequently to educational publications and is a joint author with E. C. Marston and F. Zacher of a book titled "Business Communication."



L. L. Whaley

LAWRENCE LLEWELLYN WHALEY, purchasing agent of Howard University in Washington, D.C., has for many years concerned himself with the in-service training aspect of a purchasing department's personnel and on page 24 presents his thinking on this subject. He has been a member of the Howard University staff for more than 30 years, the last 19 of which have been as purchasing agent. He enjoys travel, but for the last 25 years has spent his vacations on Cape Cod. His hobbies are reading, golf, bowling, teaching and civic organization work, and he has a special taste for piano and for music appreciation. In addition to his administrative duties, he has served as a teacher of business law, business English, business arithmetic and accounting principles.



H. M. Thompson

HENRIETTA M. THOMPSON, professor of home economics and head of the department of clothing, textiles and related art of the school of home economics, University of Alabama, describes on page 31 the technics employed at the university in regard to the interior decoration of college buildings. Before assuming her present position in 1928, she had served as assistant professor and head of the clothing and textiles department at Alabama Polytechnic Institute for five years. She has written extensively for magazines in the home economics field and is co-author of a book published in 1949 titled "Clothing for Children." She has traveled throughout Europe and most of the United States.



William E. Elmore

WILLIAM E. ELMORE, internal auditor of the business office, University of Florida, emphasizes on page 45 the importance of unit cost accounting in the operation of a college business office. He joined the University of Florida staff as internal auditor in July 1950 after a successful experience in public accounting with a firm in Atlanta, Ga., where he found time to teach accounting one hour each morning and attend law school at night. He graduated from the Citadel in 1943, then spent four years in the army, from which he was discharged as a captain in military intelligence.



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Questions and Answers

Outside Vendors

Question: What control is desirable in regard to outside vendors on campus? How is such control enforced?—H.R., Calif.

ANSWER: Outside vendors should not be permitted to operate in university buildings. Among the reasons why this prohibition should be enforced are: the necessity of maintaining reasonable living conditions in the dormitories where students may reside without being interrupted by or subjected to outside sales pressures; students usually attend college with somewhat limited means at their disposal and they should not be exposed to smart salesmanship propositions, some of which border on questionable business ethics. The institution should take every precaution to protect its students from entering into obligations for merchandise for which they have no immediate use and which they can ill afford to buy.

We have, since World War II, provided quarters for married students whose budgets permit the purchase of necessities only. The high pressure salesman capitalizes on an opportunity to get a signature on a dotted line for items of questionable value in a tight family budget. We should protect these young housewives from super-salesmanship campaigns.

Enforcement requires cooperation. In our official information for students, we state: "Commercial enterprises (such as pressing clothes and the operation of a barber shop) are prohibited. The sale of goods in any dormitory will be permitted only upon the written approval of the dean of men or the dean of women. No permit is granted to persons not registered in the university."

Students may sell in dormitories on application to the dean of men or the dean of women, but their sales services are carefully screened to determine that such activities are in keeping with student requirements.

Outside vendors are expressly prohibited, and each house director is

requested to report at once any violation of this restriction. Measures are then taken to discontinue the activities of the vendor. In our housing for married students, our announcement requests the cooperation of each householder in reporting immediately any outside vendor who attempts to present his wares. Measures are taken immediately, by the manager of housing units, to terminate further solicitation.

We owe it to our students and staff to shield them from interference in their duties, their dormitory living, or in college owned homes from unwanted, supersalesmanship solicitation.—R. C. MAGRATH, *treasurer, University of New Hampshire.*

Safekeeping Problem

Question: Should the college business office accept valuables for safekeeping?—L.S., Ohio.

ANSWER: As a general rule, it is not good policy for the business office to accept valuables for safekeeping, at least from individuals. Quite frequently, the nature or size of the valuable may be the deciding factor. Small parcels or envelopes might not present a space problem, but large packages take up area needed for office operations. In addition, any loss of personal property by fire, theft or burglary would not ordinarily be covered in a college's insurance policy.

An alternative that might be recognized is in case the business office has safety deposit boxes that can be rented to individuals. By this means, security of the property is assured.—GEORGE BAUGHMAN, *business manager, University of Florida.*

If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill.

Use of Student Cars

Question: How do you regulate use of student cars on college business?—R.M.C., Ill.

ANSWER: The University of Oklahoma does not ask for, nor does it reimburse students for, the use of their private cars. There have been occasions when student organizations have used private cars. On such occasions, the dean of students requests that certain information be furnished him, such as the names of the students going, when they will leave and return, and in whose vehicle they will be traveling.

Employees other than students may, upon proper authorization, use their own cars for university business, in which case they are paid the authorized rate of 6 cents per mile.—WALTER W. KRAFT, *director of physical plant, University of Oklahoma.*

Reserves for Depreciation

Question: Have any state supported institutions been permitted by their legislative bodies to provide reserves for depreciation on capital assets out of operation budgets?—J.W.P., N.J.

ANSWER: In general, no provisions have been made whereby state supported institutions could accumulate reserves out of operating budgets for the replacement of capital assets. This is true only with respect to academic buildings and not such self-supporting programs involving residence halls. There may be some exceptions to these statements not known to me.

This policy has been somewhat traditional in all governmental agencies. However, in view of the increasing need of physical facilities for institutions of higher education, it may be appropriate to reconsider this policy. Perhaps some publicly controlled institutions may pioneer in the field and point the way toward a proper method of providing funded reserves for the replacement of capital assets.—RAY KETTLER, *business manager and controller, Purdue University.*

ideas

**from Blickman-Built
award-winning
food service
installations**

sanitary construction lowers maintenance costs

AT BAYLOR UNIVERSITY HOSPITAL, DALLAS, TEXAS



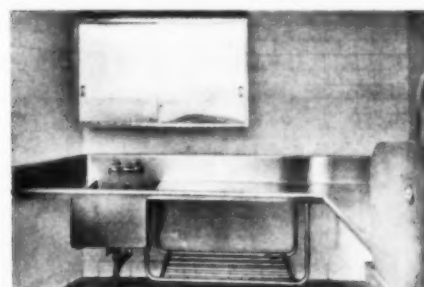
FLOOR PANTRY—showing Blickman-Built food conveyor. Note stainless steel serving counter with round-corner bottom. Pantries have complete service facilities.



GENERAL VIEW OF MAIN KITCHEN—showing food conveyors lined up opposite cook's tables. When loaded, conveyors are wheeled to elevators and taken to individual floor pantries. Stainless steel cook's table typifies sanitary construction of all equipment, featuring round corners, rolled edges, seamless crevice-free surfaces. Note built-in bain marie.



CAFETERIA—close up of stainless steel serving counter. Round-corner bottom, seamless top, welded tray slides, elimination of horizontal trim—all promote cleanliness.



FUNCTIONAL DESIGN AIDS SANITATION in main dish pantry. Stainless steel clean dish table with built-in round-corner sink. Wall-mounting eliminates leg obstructions, facilitates cleaning. Welded tubular undershelf is suspended from dish table, leaving floor clear.

• The stainless steel equipment in this prize-winning installation features construction details which reduce time and labor required for cleaning. For example, wall-mounting of sinks and dish tables leaves floor areas unobstructed for rapid, thorough cleaning. Stainless steel pipe enclosures prevent accumulation of dirt and grease on inaccessible surfaces. Welded tubular undershelves are readily cleaned on all surfaces. Round-corner sinks, rolled edges and seamless stainless steel surfaces facilitate cleaning by eliminating dirt-collecting crevices. Such details help maintain the highest standards of hospital sanitation. In addition, durable welded structures assure years of repair-free service life. Maintenance costs are low as a result.

The installation serves approximately 55,000 meals every month to patients and employees. Service to patients is handled through a well-planned decentralized system. Pre-heated food conveyors are loaded with bulk food in the main kitchen and transported to individual floor pantries. There, trays are set up and distributed to patients.

Designed and equipped by S. Blickman, Inc., this installation won a Merit Award in a recent Institutions Food Service Contest. You, too, can realize substantial savings in labor and maintenance costs by specifying "Blickman-Built."



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COFFEE URNS



STEAM TABLES



FOOD CONVEYORS



SINKS



WORK TABLES

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OF BATTLE CREEK



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In a chair
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means
comfort



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GF metal furniture—
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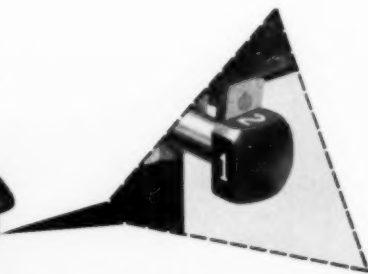
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Sensimatic 300 with 11 totals
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◀ INSTITUTIONAL SIZE—51-OZ. TIN

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is your WOOD FLOOR soaking up DIRT & GRIME like a BLOTTER?



You'll instantly sense what this enlargement shows. Each wood pore, if not properly sealed, soaks up a drop of oil or dirt just like a blotter does ink. Once such a spot penetrates a porous wood floor, steady scrubbing often drives it in deeper — or dissolves and spreads it.

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The treatment that adds
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it's right, if
it comes
in the
checkerboard
drum.

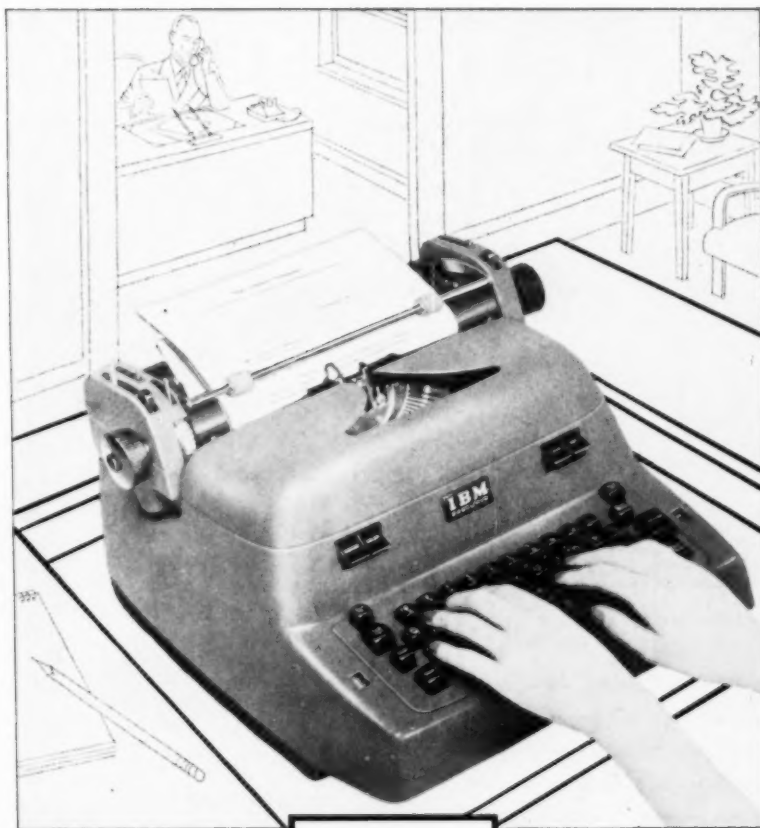
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"on your staff not your payroll"

a nationwide corps of trained floor experts (Hillyard Maintainers). Find the one nearest you in the classified pages of your telephone book — or write direct. Advice is free.

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EXECUTIVE*

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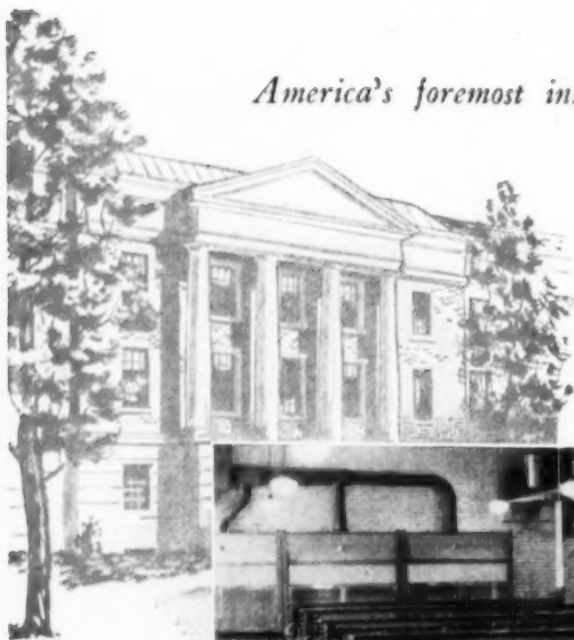
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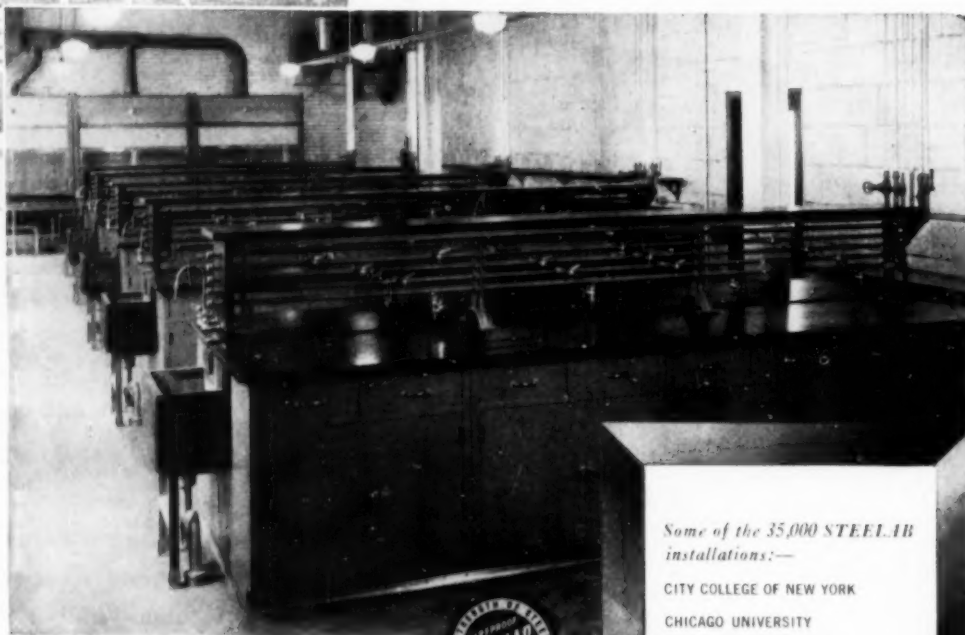
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TEMPLE
U. S. NAVAL ACADEMY
WEST VIRGINIA

IS ACADEMIC FREEDOM REALLY BEING THREATENED?

FRANCIS H. HORN

Executive Secretary
Association of Higher Education
National Education Association



ATTACKS UPON COLLEGES AND UNIVERSITIES AS hotbeds of radicalism and on professors as dangerous subversives are not new in this country. In America, with its popular distrust of ideas as such—our tradition emphasizing achievement in practical affairs rather than in the intellectual realm—suspicion of the professors, whose business is ideas, has always existed. In this period of tension and confusion, the distrust of the professors has naturally deepened, resulting in more intensified attacks upon academic freedom than ever before.

Journalistic leaders among the critics include the *Chicago Tribune*, which constantly warns about "leftist profs"; the *Freeman*, which recently published pieces on "Our Left-Handed Professors" and subversives at Vassar; the *American Mercury*, which in "The Treason of the Professors" provided William F. Buckley Jr. with a forum to continue his denunciations of the "superstitions of academic freedom," and the *American Legion Magazine*, which featured Louis Budenz's "Do the Colleges Have To Hire Red Professors?" charging that colleges harbor Communists who "cloak themselves in academic freedom."

In addition to these and other self-appointed guardians of the public welfare who would weed out "Reds" from colleges and universities are the official congressional investigators. Apparently, previous investigations have scarcely scratched the surface. Representative Velde, new chairman of the House un-American activities committee, has announced that investigation of subversive influences in colleges and universities will be the committee's chief line of inquiry because this field "has been largely left untouched." Senator McCarthy has promised that Congress will expose not just Communists in education—the results might not be very spectacular—but "Communist thinkers." What a "Communist thinker" is remains to be determined.

Just how much interference with academic freedom has there been or will there be because of these attacks? Is academic freedom really threatened?

A group of newspaper editors, in reply to a recent inquiry from the American Civil Liberties Union, concluded that in most places academic freedom was holding its own. The latest report of Committee A

of the American Association of University Professors, made last spring, indicated that in adherence to principles of academic freedom and tenure, "more institutions have thus far resisted than have yielded to unwholesome public pressure." It found no significant increase in dismissals of professors or administrators involving violations of academic freedom.

Dismissals, however, are not the major measure of the threat to academic freedom. The great danger lies in the curtailment of freedom of thought and expression on the part of college faculties. In 1951, a *New York Times* survey revealed "a subtle creeping paralysis of thought and speech . . . limiting both students and faculty in the area traditionally reserved for the free exploration of knowledge and truth."

Is this an exaggeration? Are professors afraid to speak their minds, to support worthy but unpopular causes, to follow the truth wherever it may lead? I believe they are. Norman Cousins recently reported a conversation with some faculty members who admitted, reluctantly, that more and more professors are afraid to "stick their necks out" and give the facts as they understand them. Rather the tendency is to "try to figure out what the big investigations will be about two years from now and then teach things today that will look good later. . . . More and more of us are doing exactly what they're doing in Russia. We're finding out what's politically safe and sticking to it."

This is the real threat to academic freedom. If, under the mounting attacks upon colleges and college professors, this trend toward "safe" teaching and thinking, toward intellectual conformity continues, the greatness of American higher education will be ended. Teachers and scholars must be free to follow truth wherever it leads. Since it is the truth that makes men free, the preservation of academic freedom is of the greatest importance, not only to educational institutions but to the whole nation. Academic freedom is no special privilege of the teaching profession; it is the foundation of all our freedoms. Academic freedom must be vigorously defended and strengthened now, lest the forces of anti-intellectualism triumph and Americans find themselves behind an intellectual iron curtain of their own making.

Looking Forward

Investigations

IN THE LIGHT OF CURRENT EVENTS AND PUBLIC temper, some colleges and universities very likely will be subjected to legislative and congressional investigations on charges that they are sympathetic to communism or have Communists on their faculties.

A college or university that is doing a genuine job of educating its students should welcome such investigations. In resolutions passed at its recent annual meeting in California, the Association of American Colleges concurred by stating "... this commission urges the association to cooperate with any responsible committee ... for the purpose of making a study of higher education as it touches upon these matters."

Proponents of the resolution stated that an investigating committee should "study the various charges that have been bandied about in loose fashion. We do not believe that the colleges have anything to fear from an impartial investigation. But we do want to avoid a smear campaign based on irresponsible charges."

Trustees of colleges will be afforded many opportunities for courageous leadership in the face of attacks on their institutions. Some boards of trustees will measure up to the responsibility of their office in the defense of academic freedom; others will be swept away by the tide.

This is not to say that all faculty instruction and behavior should be shielded by the cloak of academic freedom. Academic freedom must not be expected to protect the incompetent or the irresponsible.

1954 Assembly?

SO FAR, THE NATIONAL FEDERATION OF COLLEGE and University Business Officer Associations has received little favorable response to the suggestion that a national assembly of college and university business officers be held in 1954. The proposal was rejected by two regional associations, even before suggestions as to the possible program were considered. One regional group has approved the proposal.

There are many meetings of college administrators that might be reconsidered or omitted, but it does not seem proper that a national meeting of college business officers once every five years should be one of those casualties. There ought to be sufficient community of interest among college administrators to result in a profitable meeting every five years.

The negative reaction expressed thus far ostensibly

has been based on doubt that the small college executive can afford to go to both a regional business officer meeting and the national assembly. The fact is that many of these men are now going to two meetings of this type: one regional and one national.

The suspicion exists that the "turndown" is the result of provincialism. Some regional associations are jealous of their prerogatives and look upon a national assembly as a potential giant that eventually may devour them. This dire fate has not overtaken other segments of the college administrative family, that—horror of horrors—finally founded a national group for purposes of more effective work in their field.

What About Unit Costs?

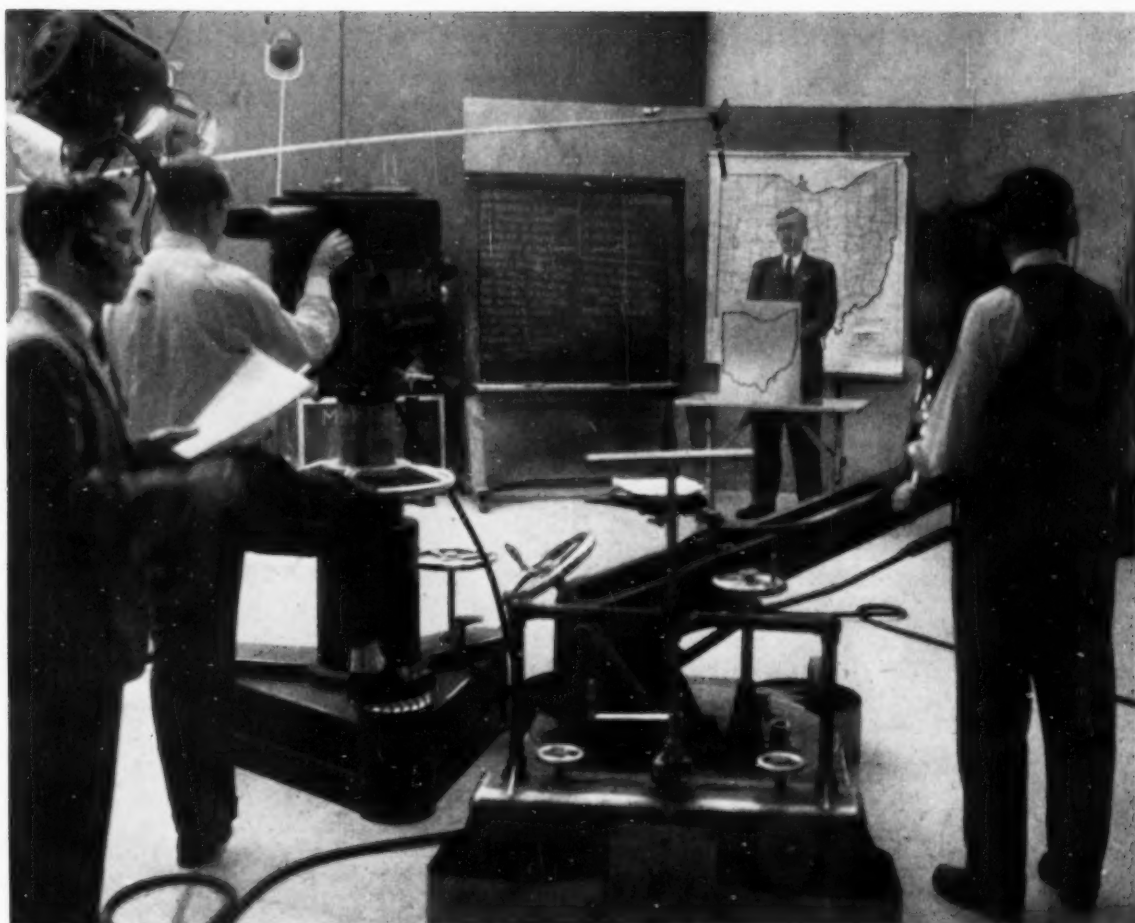
WITHIN RECENT WEEKS THERE HAS BEEN AN attempt at national level to encourage college administrators to develop more adequate data in terms of unit cost accounting. The proposals did not meet with much success.

Opponents of such proposals pointed out that the differences among institutions in regard to size, location, student body, curriculum, and administrative policy and organization are so great that comparative unit costs would have no meaning or validity. In part, this criticism is accurate, but the reluctance to tackle the problems of unit cost accounting is disappointing.

For state supported institutions there would be hazards involved in the development of unit cost data. There might be a tendency on the part of state legislatures to look with disfavor on an institution with high unit costs per student, irrespective of the fact that professional training in the sciences and in engineering are more expensive than is the traditional liberal arts program. This would force a more intensive "educating" of legislators relative to institutional differences and needs, but certainly the problem is not an insurmountable one.

Unit cost accounting would result in the acquisition of more adequate operational data for the administrator; it would encourage the development of an analytical approach to all operations on campus. These would be reflected in greater efficiency and reduced costs.

Some may infer from the reluctance of administrators to tackle the unit cost accounting problem in higher education that "they never had it so good" and are fearful of the outcome of unit cost accounting. Let's hope this is not the case.



Policy and station planning for

EDUCATIONAL TV

THIS IS A YEAR OF DECISION ABOUT television for educational institutions. A total of 242 channels for television stations has been reserved by the Federal Communications Commission for noncommercial, educational stations. Educational institutions desiring to operate a noncommercial station should have preparations well under way by June 2. If educators are not

ready to use the channel locally available, there is danger that after June it will be assigned to a commercial operator who is ready to use it.

There is no direct experience in noncommercial, educational telecasting that can be used as a guide for either policy or technic. Answers to technical questions must be based on estimates rather than on operating data, because the equipment for ultra-high frequency educational channels has only recently emerged from the development stage. Delivery dates may run at least several months into the future.

There are a number of fundamental questions to be resolved in making a decision about an educational television station:

1. What will be the programming objectives of the station?
2. What standards of excellence will be required of programs to be broadcast by the station?
3. Does the institution have the

Dr. Randolph C. Downes presents lecture on "History of Ohio." Two cameras are used to achieve variety in the telecast picture.

LORING M. THOMPSON

Assistant to the President
University of Toledo
Toledo, Ohio

technical, financial and personnel resources necessary to achieve the programming objectives and standards of excellence?

The analysis of the resources involved in educational telecasting may be divided into the following major categories:

1. *Programs.* The content of the audio and visual signal that is to be presented to the viewing audience.

2. *Studio.* The cameras, lights, building and other equipment needed for "picking up" the program in the form of a television signal.

3. *Transmission.* The amplification and broadcasting of the signal received from the studio.

4. *Administration.*

This article examines the possible programming objectives and the facilities and costs involved in achieving these objectives. No attempt is made to suggest a "minimum" or "desirable" budget, since there may be a wide difference in costs according to the objectives and resources of the sponsoring institution. All costs discussed here are estimates subject to large variations in any specific station-planning situation. They may be modified by changes in prices charged by manufacturers, by local prices and availability of material and personnel, by new technical developments that could render obsolete the expensive technical equipment now considered essential, and so forth.

EDUCATIONAL PROGRAMS

With limited funds and resources at his disposal, an educator must make decisions that balance (a) what he would like to have with (b) what is available at a price he can afford. The potentialities of educational television have not been fully explored, but it is apparent that some of the possibilities would require substantial additions to educational finances and resources. A realistic policy and statement of programming objectives must be related to what is technically and financially possible.

KEEP ACADEMIC FREEDOM

If academic freedom is to be maintained, educational institutions should assume responsibility for telecasting only if they are in a position to prepare the content of their programs. They should have at their disposal sufficient funds, talent, equipment and other material to permit them to make up their own broadcasts. Of course, a

school with limited funds might use programs prepared by business organizations, other nonprofit corporations, labor unions, or government agencies in order to fill out its schedule. But if this were done regularly, the school would soon lose its freedom and individual identity, becoming the mouthpiece of the other organizations preparing the "educational" material. This does not mean that educational programs avoid describing other institutions in the world today but rather that the descriptions should be prepared by educators, just as textbooks are now written by educators.

If schools and colleges are to telecast, they must be free to determine what they will telecast. In order to be free they must have at their disposal the means of preparing the programs they wish to telecast, just as they now prepare their own courses for the classroom.

SET HIGH STANDARDS

The standards that an educational institution sets for its television programs will be a major factor in determining the time, effort and money the station will require. If programs are intended to attract a large audience, they must meet high technical standards and be entertaining as well as informative. On the other hand, if a program is intended to appeal to only a few people with an intense interest in the subject matter, then costs of production may be considerably smaller.

Many educators feel that the public will judge the entire institution by the quality and appeal of the television programs, and, therefore, standards should be higher than those of some commercial stations; no telecasting at all would be preferable to mediocre programs.

POSSIBLE OBJECTIVES

A study of the possible programming objectives and the related costs of production will reveal that some objectives may incur considerably different costs than others. The policy of an educational station may emphasize one or more of the four objectives described in the following paragraphs.

Adult or Continuation Education. During the past decade there has been a substantial increase in the enrollments of adults for part-time courses at schools and colleges throughout the country. Television programs may be used to stimulate this existing interest

in further education by adults, and opportunities for continuation may be extended to those who cannot afford the time or money to enroll in classes. Programs may include a large number of subjects that would benefit both the individual and the community, such as health, child care, human relations at home and on the job. Cultural interests and activities may be fostered by presentations and explanations of music, art and drama. Recreations and hobbies may be promoted by programs dealing with fishing, bridge or photography.

Some colleges are now experimenting with credit courses over television. The possibility of giving many adults the opportunity to finish high school or college work with the help of telecourses has not been fully explored.

Programs to Supplement Instruction in the Classroom. The increasing use of films to enrich classroom instruction indicates the value of bringing dynamic audio-visual material before students. Television programs for classroom viewing might bring important current events directly into the classroom; they would enable outstanding teachers and community leaders to present their ideas to an audience of many more students than could be reached in the largest lecture hall. Television equipment is now being used to make small scale demonstrations, such as medical operations, visible to a large number of observers.

If programs for children are to be emphasized, facilities for presenting a great deal of action and scenes from real life will be highly desirable. Explanations of interest to adults may be made by a speaker, together with charts and other visual aids, in front of a single camera, but to hold the interest of children the action of both fantasy and real life must be presented directly. Studios should contain the facilities for dramatization by a number of participants, and a mobile camera would be needed to pick up current events in the community or to show children, for example, the actual operation of an aircraft.

The advantages and costs of telecasting programs for children should be evaluated against the greater use of classroom films, which can be shown to small groups at irregular hours and repeated or interrupted for comment by the teacher.

Children's Programs for Out-of-School Hours. A great many children now watch television programs during

week-day afternoons, early evening hours, and at all hours of the day on week ends. Presumably, the educational value of television-watching experience could be increased by providing programs that are both educational and entertaining. Since they will watch television anyway, why not let an educational station provide the type of program that parents and educators believe to be the most desirable?

BEST POSSIBLE LABORATORY

Student Performance and Training in Television. For advanced students of telecasting an actual station would provide the best possible laboratory for instruction and experimentation. For students with no professional interest, television—the opportunity to perform on programs—will be a stimulating part of their general education. In a large university there might be enough students studying television so that student performances would occupy much of the scheduled time on the air. In most other situations, student performances alone probably would not provide enough programs of interest to the general public to justify the expense of telecasting.

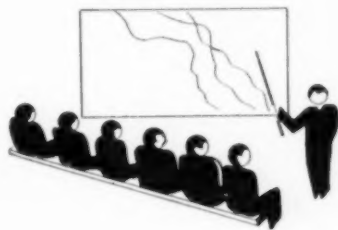
If telecasting is to be taught to students, the staff and students together may perform much of the work necessary for the operation of the station, thereby reducing the amount that must be budgeted for operating expenses. This would be true only if the student and staff help were continuously available during the entire schedule, making regular paid crews unnecessary. The cost of the television equipment would prohibit its operation by any but carefully trained or supervised students.

Operating Schedule. The listening times of the potential audience will determine the days and hours when the station should broadcast. Live programs intended to go into the school classrooms must be broadcast during morning and early afternoon hours. On the other hand, out-of-school children's programs and certain adult programs will have a larger audience during week ends and week-day evenings. If broadcasting during evenings and week ends is desired, then higher wages may have to be paid for technical and programming staffs that work during these hours, and more than one shift of many of these workers may be necessary. On the other hand, the operating costs may be minimized by broadcasting only

during the regular week-day working hours.

The use of film will be advantageous in preparing many types of educational programs. Films may be edited and spliced to keep them in line with high standards of excellence. Films may be used to bring together events that are widely separated in time or place. Programs need not be limited to materials and stage properties within the studio or to events that can be placed in front of an outside ("remote") camera at the time a program is taking place. High quality films may be repeated in the classroom. The exchange of films should reduce the costs of preparing programs at each individual station.

"Live" programs always will be needed for news and for spot announcements. No station ever can be completely up to date in its programs if it relies entirely on film. Classroom teachers who repeat the teaching of



the same course year after year use current illustrations and sometimes employ films as a part of the lecture presentation. This also might prove to be a useful pattern in preparing programs for television.

PROGRAMMING COSTS

There is a tremendous range of possible programming costs, depending on the policy objectives, physical facilities, talent used, and the standards of excellence adopted by the telecasting institution. If the experience of commercial stations is any indication, operating costs will increase at a much greater rate than the costs of physical equipment needed for more elaborate programs.

The costs of television programs may be far greater than the costs of similar programs prepared only for the campus or the classroom. For example, the University of Toledo has been offering two college credit courses over WSPD-TV. The programs are "live" ones, with the lecturer appearing before a single camera and

using prepared charts, props and some demonstration equipment. The only costs to the university are the programming costs, since the time on the air has been donated generously by the local television station. *These programming costs are approximately six times the costs of presenting the same subject matter in the classroom.* Equipment, props and charts must be prepared. Each broadcast requires several hours' rehearsal time at which one or more faculty members and the coordinator of radio and television must be present.

Costs of preparing simple programs, involving one or two participants and simple equipment only, are estimated to be in the vicinity of \$75 to \$100 per hour of actual broadcasting. Costs would climb rapidly for programs requiring more action in front of the camera, a larger number of talented performers, or more elaborate equipment, charts and staging properties.

Many educational stations may plan to use films for at least a substantial portion of their programs. Each station must check the availability and costs of films that are in keeping with its programming objectives and standards of excellence.

If the costs of maintaining a regular continuous program over an educational station appear prohibitive, there is still the alternative of presenting some educational programs over commercial stations and over a closed circuit within an educational institution.

STUDIO FACILITIES

There is a large range of alternatives to choose from in the selection of studio facilities, depending upon the types of programs that may be desired. The term "studio facilities" is used here to include cameras and equipment necessary for picking up the program in the form of a signal that becomes the input to the transmitter, plus any housing, lighting and the like that must be provided for the program.

FILM AND SLIDE EQUIPMENT

Film and slide equipment is a basic, minimum essential for a television studio. First cost of the equipment will be around \$30,000 or \$40,000, including control and audio apparatus. Some cameras may be used for "live" shows as well as for film; others are specialized for use with slide and film only. Operating costs of each camera, including power and tubes, may be



If programs for children are to be emphasized, facilities for presenting a great deal of action and scenes from real life will be highly desirable. Studios should contain the facilities for dramatization by a number of participants.

somewhere between \$2.50 and \$4 per hour. A crew of two or three operators will be required for attending the slide or film apparatus, the control panels, and making announcements.

A small studio and a single camera are sufficient to pick up a program that has one or several people, together with charts, diagrams, models, small-scale scientific apparatus, and other stage properties. Any action in the program must be limited to a relatively small area. All studios should be insulated from outside noises and vibration, and air conditioning will eliminate the nuisance of excessive perspiration during warm weather. A second camera chain is useful in effecting fadeouts from one scene to another, for shifting from one view to another of the same scene, and for stand-by use in case of a temporary breakdown or tube burn-out in the first camera.

Initial technical equipment for a studio of this type would cost between

\$35,000 and \$50,000. Studio control equipment might be \$20,000 and each camera chain \$15,000 or \$20,000. Camera operating costs (power and tubes) might range around \$2.50 to \$4 per hour per camera. A crew of three would be required. With about 1000 square feet for the studio and the same amount for storage and other services, the building cost would run about \$30,000, figured at \$15 per square foot.

For many programs a studio the size of a theater stage is desirable. Two or more cameras will permit the performance to be viewed from different perspectives. The large studio often is adjacent to a small "announce" studio with a single camera to pick up the announcer and perhaps one or two others. The larger the number of adjacent studios, the easier it is to change from one scene to another or one program to another without delays and interruptions. Televiewing audiences are not in the habit of waiting

patiently for scenes to be shifted between acts.

For any substantial expansion in studio facilities, costs mount rapidly. Technical equipment (cameras, studio control equipment, and lighting) can easily run to \$150,000 or \$200,000. A studio area for more elaborate performances should be served by larger areas for storage, dressing rooms for performers, waiting rooms, and administration.

Cost studies of commercial stations indicate that operating expenses in enlarged studios increase at a more rapid rate than the first costs of the equipment needed for the expansion—that is, an increase of investment in equipment of 50 per cent will be accompanied by a greater percentage increase in operating costs.

A mobile pickup unit usually consists of a truck or station wagon carrying two cameras and related equipment and a micro-wave transmitter for carrying the signal to the

station transmitter, which rebroadcasts it on the regular channel. This equipment may be used to pick up both indoor and outdoor programs; it could be moved into the classroom, laboratory, gymnasium or athletic field; it could be used to pick up local events and scenes of importance and bring them to classrooms equipped with a television receiver. Continuous broadcasting would be difficult to maintain with a mobile unit alone.

Cost for the mobile unit will be from \$65,000 to \$75,000, including truck, two cameras, control equipment, and micro-wave apparatus. Technical operating costs for the cameras will be the same as for studio cameras (\$2.50 to \$4 per hour). A crew of three persons will be needed to operate the mobile unit.

INTERNAL TELEVISION SYSTEM

The signal from a television camera may be carried by coaxial cable to receivers on an internal circuit rather than transmitted over the air. Such an arrangement may be used to show a great many students the details of a small-scale demonstration by an outstanding scientist, for example. The television receiver gives them a much better view of the performance than if they were sitting some distance away from the front of a large lecture hall. Of course, the internal circuit may be used for the same programs and films as might be broadcast, then the cameras and studio facilities may be used for making film to be broadcast over a transmitter at a later time.

A studio and internal circuit might be the answer for educational institutions that are interested in television, yet cannot afford to maintain a transmitter and a continuous program. Films may be prepared for telecasting over other educational stations or over commercial stations. Equipment for film recording and processing may cost about \$35,000, and a skilled professional operator would be required.

The selection of transmitting facilities will be affected by the geographic area and the concentrations of population in that area; by the topography of the area; by the possible locations of the transmitting tower, and by the performance and costs of available equipment.

The ultra-high frequency signals have many of the characteristics of light. The beam tends to travel in a straight line. It will not "bend" around hills and buildings. Good reception

requires that the transmitting antenna be visible from (or in the line or sight of) the receiving antenna.

Just as a light beam may be focused or concentrated, so the ultra-high frequency signal may be focused by a high "gain" antenna. A high tower will give a greater radius of coverage over an unobstructed area, and a high gain antenna will concentrate the signal so that it is stronger near the surface of the earth instead of radiating upward into space. The effective radiated power of the signal is greatly increased.

A maximum population coverage from an ultra-high frequency transmitter would be obtained if the antenna could be placed on a high, lone mountain peak surrounded by a densely populated plain. The poorest population coverage would be where people are scattered over very hilly topography. Because of the many factors affecting the distance a signal may be transmitted and the quality of the signal, it may not be possible to forecast the coverage and quality of a signal that may be obtained by the installation of certain transmitting and antenna equipment. This is particularly true because there have only been a few ultra-high frequency installations, even for experimental and commercial purposes.

TRANSMITTING EQUIPMENT

The choice of the tower, the location of the tower, and transmitting equipment are closely related. In the absence of a high natural location such as a mountain peak, the height of an antenna will usually be limited by the increasing costs of adding to the height of the supporting tower. Populations usually become thinner as the distance from the transmitter is increased, so that expenditures for a tower high enough to reach them soon come to a point of diminishing returns. The relationship between tower height and tower costs reaches a turning point at about 500 feet; the added costs for additional height are much greater above 500 feet.

The selection of the power, or size, of the transmitter is closely related to the gain of the antenna. The transmitters available from the offerings of several large manufacturers include 1, 5 and 10 kilowatt designs. Antennas may be obtained with gains up to 25 or 50.

Transmitting equipment satisfactory to most educational stations may be

obtained for \$110,000 to \$150,000, including antenna and installed tower up to about 500 feet. High-quality coverage for 12 to 20 miles should be obtained on most terrains. Additional coverage may cost considerably more. Technical operating costs for power and tubes for the transmitter may be \$1.50 to \$3 per hour. A crew of one or two persons will be needed to attend the transmitter, and the station will require a competent, professionally trained and experienced chief engineer on a full-time basis.

Space requirements for the transmitting equipment will be relatively small compared with studio needs. However, a guyed antenna will require a large site, perhaps 800 feet square, so that the guy wires may be anchored.

Unless additional population coverage is required, the selection of transmitting equipment is not closely related to policy and programming objectives in the same way that the selection of studio facilities and program budgeting are. Transmitting equipment will be the same, irrespective of the content of programs or nature of the studio.

ADMINISTRATION

The administration of an educational television station would be no easy task. Schedules would have to be set up for programs sponsored by many different departments of instruction. Rehearsals and arrangements for the preparation of programs would have to be supervised. Many technical problems in the operation of new electronic equipment would have to be solved. New technical developments would require constant modernization of the equipment if it is to be kept up to date. And the administrator would also have to serve as a middleman between the educational authorities and the viewing public.

Because of the necessity of close coordination between the programming and transmitting functions of the station, it should be under the control of a single administrator. The relationship of this administrator to other officials will depend on the programming policy and current administrative organization.

If several educational institutions are to cooperate in sponsoring an educational station, a private, nonprofit corporation may be formed that will require its own board of directors to determine policy and its own administrative staff.

PURCHASING TECHNICS

A symposium on the buying problems confronting colleges by
managers, decorators, housing officials and purchasing agents.

PURCHASING TECHNICS

1. In-Service Training for Purchasing

THE RAMIFICATIONS OF PROCEDURE in the day-to-day experiences of a purchasing agent seem to justify a program of in-service training, one that will serve as a keystone for objectives, plans, methods and outcomes looked for by management.

The same business concepts, sound principles and practices apply for small as well as for large institutions of higher learning, if the purchasing agent is to sell himself on the importance of his job; if he is to sell the employes on their responsibilities for doing a good job; if he is to sell the using departments on the economies that the purchasing department can effect for them, and if he is to make adequate and convincing reports to management.

At Howard University, our purchasing staff consists of the purchasing agent, assistant purchasing agent, secretary, purchase order clerk, and expeditor. We have a student enrollment of between 3500 and 4000, with facul-

From an address given at the annual meeting of the National Association of Educational Buyers, Washington, D.C., 1952.

LAWRENCE L. WHALEY

Purchasing Agent, Howard University
Washington, D.C.

ties, administrative officers, and other employes numbering 1034. Our yearly expenditures for supplies, material, equipment and other than personal services are approaching the million dollar mark.

IN-SERVICE TRAINING PAYS

In-service training has been in vogue for years in the industrial, commercial and financial areas. Concerns have found that it pays in larger dividends, from the investment standpoint.

A proper system of training not only ensures more intelligent performance of duty on the part of employes but also inspires ambition and strengthens character and good business habits. Training provides experienced men and women capable of assuming the higher positions as the business expands.

In small industrial organizations, training activities are carried on by the employer himself. The general

principles, however, are the same as though the organization were large enough to have a completely equipped training school. Sometimes the educational activities are in the hands of a committee composed of the officials of the organization. To devote part of the organization's time to definite methods of improving the ability of those who produce is of just as much importance as devoting all of it to production methods.

The goal in these training efforts is to acquaint the new employe not only with the principles and details of the work he or she is going to handle but to instill a concept of the spirit and principles of the organization as a whole. Training in the fundamentals of a position may be used to give the employe the idea that his work is of vital importance. Training in the actual position follows, with quizzing during the period to be sure he is absorbing all the details.

A new employe needs training in order to fit into the group. He needs to know of the institution's objectives, its general organization, the rules and regulations pertaining to all employes.

He must have direction in order to learn all the details of his own job. He needs help in developing the proper methods of doing the work; he needs to be shown how to lay out the work, how to perform the necessary sequence of operations, why the sequence has been established, and how to expend a minimum of energy to obtain the desired results. New procedures or methods also necessitate the initiation of old employes into new routines. Sometimes, a complete unlearning of the old procedures and the development of an entirely new set of practices and habits are required.

Some of the objectives for a well organized program of in-service training are the following:

1. To acquaint the employe with purchasing problems, plans and ideals, so that he may interpret them to his fellow employes and to the various departments within the institution.
2. To give the employe an opportunity to check on the soundness of his ideas and methods and to receive the benefits of a mutual exchange of ideas.
3. To promote pride in the purchasing department and to develop an appreciation of the interdepartmental relationships contributing to purchasing results.
4. To present the employe with operative principles in training other employes on their jobs.
5. To prepare the employe for promotion and greater responsibility within his organization.

TRAINING METHODS

There is no single technic or uniform philosophical approach in personnel training. There is group train-

ing that involves classroom study, lectures, conferences, demonstrations and case problems. In individual training, there are research papers and reports, understudy, internship, periodic counseling, and rotated work assignments. For general training, there are courses in school, prescribed readings, institutes and association meetings.

The methods employed in a training program depend upon many factors: (1) the type of institution; (2) the size of the purchasing department; (3) objectives of training activities; (4) nature of the subject matter to be covered or skills to be developed; (5) the number of persons to be trained at one time; (6) whether training is to be on a short-term or a long-term basis, and (7) the value the institution attaches to a formal in-service training program.

Three training methods are commonly used: informational, instructional and the conference method. Each method poses unique problems.

The "pouring in," or informational, method is used when employes have had little experience, when there is a large group to be taught at one time, or when policies, methods and procedures are to be put into operation immediately. A manual or handbook, lectures, duplicated materials, charts and visual aids, and other forms of communication are included under this classification.

The instructional method, or "learning by doing," may involve either individual or group instruction under supervision of a leader. The demonstration form gives the individual the opportunity to try out the principal.

In the conference plan, staff conferences within a department or with

outside departments may take on a classroom atmosphere with panels, "buzz sessions," question-and-answer periods, and even tests, except that all these are on an informal basis. These devices develop individual and constructive thinking and lead toward better understanding of principles and procedures, relations within and without the university, and good work practices. They utilize what members of the groups already know and serve to correct mistakes and misunderstandings.

The "Purchasing Handbook of Procedure," recently developed at Howard University, has been discovered as an effective tool or training aid in the conference plan. It is a simple mimeographed guide for members of using departments in the preparation of requisitions, reports of receipt of goods, and contractual services.

SOME LEARNING ACTIVITIES

I shall discuss here a few learning activities that may be utilized in a well formed training program. The subject matter, content and material have been selected to accomplish specific results with specific employes at Howard University.

Orientation—Here, the school or university catalog, manual, personnel register, and standard forms in use make up some of the materials. The new worker is introduced to the personnel with which he is to be closely allied in his daily work, the organization of the university, the administrative setup in the schools, colleges and the service departments; the names and locations of the buildings and the heads of the departments therein. He learns the basic functional relationships

Informal staff conferences develop constructive thinking and lead toward a better understanding of principles and procedures, relations within and without the university, and to good work practices.





Training in the actual position follows for the new employee after he is acquainted with the principles and details of the work he is to handle.

within the purchasing department, those outside departments that have use for the facilities of the purchasing department, and the interdependence necessary for successful operation of the whole organization.

The rules and regulations essential to administration, the proper programming and operation of the organization are given. Personnel policies are explained: tenure, working hours, leave regulations, allowances for sickness and vacation, benefits through old-age and survivors insurance, tuition allowances, and credit union thrift and loan advantages. The job description is then presented for study, digest and reference.

Expression of Needs—The requisition is the expression of need and originates in the using department. In the development of this phase of training a handbook of procedure and the purchasing flow chart are valuable training aids. The number of copies, the signature of the department head, the endorsement by the dean or administrative head of the division, the routing through the budget to the purchasing office, and the authority of the latter office in the negotiating and commitment of the designated funds are explained.

Mandatory source information is explained. The complete and accurate description of the articles or services with the specification and, when feasi-

ble, the performance characteristics or requirements are stressed. The catalog reference is not considered sufficient. As, for example, in the case of alcohol, there must be information as to size of container desired, the place of protective storage, the required dispensing and inventory sheets, and the reporting forms required by the Alcohol Tax Unit.

Contracts Involving Materials and Labor—Here are included many points, legal in character, the knowledge of which is required in a performance agreement. Informal and formal contract forms are utilized for material to be discussed. General conditions are set forth in studies showing the definition of terms, general scope and intent of the specifications, manner of bidding and award, time of completion, liquidated damages for delays, partial and final payments, release of liens, claims for payment from prime and subcontractor, contractors' insurance, warranties, inspection of site, additional drawings, responsibility for checking data by contractor, plumbing or electrical code requirements and permits thereunder, cleaning up of premises, steps for final inspection of work, payment terms, and a number of other things.

In advertising for contractual work involving labor and material for repairs and alterations, these and other conditions are used in support of the

specifications that may be drawn by plant operation and maintenance.

Preparation of Job Description Sheet—The instructions here are usually for the supervisor or administrator. They cover general and specific duties, the divisions of labor being broken down in order of importance, the estimated percentage of application daily or periodically as the case may be, the supervision involved, and so forth.

Operation of Voucher Audit Section—Materials for this activity include the purchase order, contract attachments, and vendor's invoices. The activity includes the following processing elements: verification of terms and prices with official authority, the checking of extensions, discounts, partial or advance payments, proper certification by department, certification by vendor and by certifying officer when required, procedure in the event of differences between the billing and the order, and preparation of payment schedules.

Secretarial Functions—Training is given in making appointments and itineraries; processing incoming mail; taking messages; handling visitor announcements, telephone referrals, and daily reports; transcription methods; techniques in report composition; maintenance of pending and closed files, and maintenance of personnel data and departmental budget control records.

Receiving Department Responsibilities—In training for using department responsibilities, there are included copies of the purchase order, partial and complete report forms, requests for tracers, standard form for presentation of loss or damage claims, and inventory and property records. The activities include the necessity for accuracy and dispatch in reporting, with full data given as to date, number of packages, manner of delivery, or method of transportation.

There are many more learning activities, such as stores operation, quotation inquiries, supplies management, and materials handling.

People learn more effectively and quickly when the problem is sensed vividly and directly and when training aids that stimulate the senses are used. The resultant training, whether good or bad, depends for its effectiveness upon the manner in which those on the operational level understand and accomplish the principles conducive to good management.

THE UNIVERSITY OF FLORIDA HAS equipped seven modern residence halls at a cost of less than 7 per cent of the total construction funds. The furnishing budget for the seven buildings, which house 1189 students, was 6.2666 per cent of the amount available for the entire project, and there was a comfortable balance in the furnishing budget when the project was complete.

Furthermore, this figure included the decorator's fee, lounge, recreation room and porch furnishings, office and service equipment, and venetian blinds, as well as room furnishings. This compares well with the 10 per cent allowance normally made for furnishing costs on institutional and hotel construction, and when the quality of furnishing and decorating is taken into consideration, the comparison is even more favorable.

Gross costs per student for all furnishings and equipment were \$243.91. Gross average costs per student for room furnishings only, exclusive of venetian blinds, were \$137.84. The costs per double room, for furnishings only, exclusive of venetian blinds, were \$269.49; per single room, \$153.02.

The seven new buildings comprise two groups—one of three buildings for 469 women students and one of four buildings for 720 men. Exterior designs and interior floor plans for all are quite similar. The seven buildings contain 494 double rooms, 201 single rooms, five housekeeping suites, three efficiency apartments, and two two-bedroom apartments for in-service personnel, six large recreation rooms, seven large lounges, seven offices, 22 upper-floor lounges, seven large porches, and a number of kitchens, pantries, storage rooms, and service areas.

The groundwork for this furnishing program was laid in 1947 when the assistant director of housing began investigating furnishing costs and styles for a refurbishing program for five old residence halls. This investigation was made along three lines:

1. What student residents liked and disliked about equipment in use and samples of standard equipment brought in for trial use.
2. Which manufacturers specialized in institutional furniture, what was available through these manufacturers, and what it cost in various quantities.
3. Costs and experiences with furnishings at other schools.



PURCHASING TECHNICS

2. Dormitory Furnishings

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The one staff member pursued the investigation alone except for conferences and discussions with other staff members to report progress and findings. There were countless meetings with manufacturers' representatives and several trips to furniture and bedding manufacturing plants.

Construction, design and finish features received particular attention in the high hope of eliminating furnishing faults and problems discovered during eight years of daily work with residence hall furnishings. The em-

phasis was placed on developing functional, compact, simple designs embodying the best and most durable construction features, light but tough and easy-to-maintain finishes, adequate working surfaces, properly protected points of wear, attractive appearance, and comfort in use. While these specifications sound simple and might seem relatively easy to meet, like so many fundamentals they can be difficult to combine in practice, particularly when obtaining them means insisting on something other than



Room furnishings in the seven new residence halls at the University of Florida are uniform, with basic equipment the same in rooms for men and rooms for women. The furniture is functional in design, combining comfort, durability and usefulness with an attractive appearance.

what is regarded as "standard" and "economical" and is readily available.

However, general specifications were finally written on the types of furnishings desired and used to obtain drawings and informal quotations from several firms. High, low and average quotation summaries were compiled, and the costs were broken down to a per-room and a per-student basis for comparison with costs from other schools that had recently completed residence halls. These figures and comparisons formed a basis for the furniture budget for the new halls.

As soon as the financing of the new halls was completed and working plans were available, the services of a qualified and experienced decorator were sought. The director of housing and the director of purchasing interviewed several interested decorators and obtained sealed quotations from those who wished to bid their services for the job after having studied the building plans. The two directors then inspected projects that had been completed by the decorators who had bid low.

The contract signed with the decorator selected specified that all purchases of equipment would be on a sealed bid basis, wherever such method could be applied, and that all purchases of any materials or labor for the project would be made and paid by and through the university. The decorator received a flat, fixed fee for his services and paid his own expenses for any travel in connection with buying for the project.

After the initial general plans for decorating and furnishings had been approved by a fairly large committee of interested university personnel, all



decisions within the scope of the original plans were restricted to an executive committee composed of the decorator, the director of housing, and the director of purchasing.

Wood was selected as the medium for the project on the basis of climatic conditions, previous experience with wooden furniture, and the desire for improved designs. The basic approaches were made on the following points:

1. Room furnishings uniform, with basic equipment the same in rooms for women and rooms for men.
2. Furniture functional in design, combining comfort, durability and usefulness with attractive appearance, particularly on the points of criticism brought out in conferences with students.
3. Color introduced wherever feasible and practical to brighten and differentiate the rooms.

After the preliminary designs and

room layouts prepared by the decorator had been approved by a large committee, detailed specifications were drawn on desks, chests and beds and forwarded to all manufacturers and dealers on the purchasing lists with a request for sealed bids. The taking of bids also was advertised in newspapers of statewide distribution. As a performance bond each bidder submitted a certified check equaling 5 per cent of his total bid. Bids unaccompanied by the bond were not considered.

The range of prices on the first bid opening showed the need for tighter specifications and elimination of certain items. Rather than enter into negotiations with one or two low bidders, the university rejected all bids and started the process again. With specifications redrawn and alternates clearly limited, the second bid was opened under the auspices of the state board of control, which had been

furnished with a detailed outline of the project planning and budgetary calculations.

The second bid opening produced results within the budget estimates. A nationally known firm received the contract for the student desks, with colored tops in burnproof plastic, and single and double chests. Following this the requirements for mattresses and box springs were met with one bid, the award for both going to one firm long established in the state. However, two bid openings were required before the contract for desk chairs and room lounge chairs could be awarded, lack of clarity and precision in designs and specifications having caused confusion on the first bid.

A happy solution to the problem of bed frames netted a saving of approximately \$2000 in furnishing costs and a saving of an infinite amount of future irritations and extra cleaning. High initial cost estimates had prevented serious consideration of foam rubber mattresses with matching spring bases and bedstead units with storage spaces and functional features. However, no one was willing to compromise for less than innerspring mattresses with matching box springs, since the bed unit was intended to

function as a studio couch or lounge in the daytime.

To give the unit proper height and obtain design harmony with the other room furnishings, an inset, pedestal base was provided by designing a frame 5 inches high and 2 inches shorter and 3 inches narrower than the box spring bottom. Quarter-round cleats nailed to the box spring bottom fit inside the base frame and prevent the box spring from shifting out of alignment with the base. The corner-blocked, center-braced frame, with rubber-insulated, metal-clad glides at the corners, provides firm support for the box spring, prevents shoes and stockings from disappearing under the bed, and even provides storage space for flat cartons inside the frame between the spring and the floor since the box spring can be raised from one side. The corner glides permit the entire unit to be moved with ease for the rarely needed underbed cleaning.

Elimination of the conventional bedsteads eliminated the finish maintenance problem that always arises from students' using the steads as shoe-shine stands and towel racks and the problem of having extra long bed bases for the extra tall students. Long Tom can sleep on one of these beds

without discomfort since there is no bedstead to entangle his feet. Built by the university's maintenance department to housing office designs and specifications, the frames cost about half as much as an acceptable metal frame or dolly.

The design and construction of the student desks has been a source of satisfaction to everyone who has used them. Numerous conferences with students had revealed that inadequate top surfaces and inadequate and inaccessible shelves for books and papers were major defects in desks normally available for student use. These criticisms were met with a desk that provides a top surface 30 inches deep by 42 inches wide and, in a pedestal base on the right-hand side, two front-opening storage spaces, each 13½ inches wide, 20 inches deep, and 8 inches high. The desk drawer is located at the bottom of the pedestal so that, if it is accidentally pulled completely out of the desk, its contents will not spill all over the floor.

The desk top—finished in cigarette-proof plastic to the delight of the maintenance men—overhangs the body of the desk, thus permitting two or three people to work as a group at the desk without discomfort. The pedestal openings will accommodate



standard size notebooks laid flat and a large variety of supplies and reserve books. The 30 inch depth of the desk tops permits frequently used texts to be lined up across the back edge with adequate space still left for ordinary paper work. Architectural and engineering students can put their texts and supplies in the storage compartments and have the desk tops free for their drawing boards.

The decorator worked out a basic color scheme which runs, with minor variations, through all the buildings and which provides both variations between areas and floors and a unity to the whole project. Coral and green were selected as accent colors for the student rooms.

On one floor the corridors were tiled in tan with green accent tiles while the rooms had gray grounds with red or coral accent tiles; on the next floor, the room colors were tan with green accents while corridors were gray with red. The tiles were installed with patterns designed to accentuate the breadth and minimize the length of the corridors and the rooms. Desk tops, box spring sides, desk chair seats, lounge chair upholsteries, venetian blind tapes, and painting strips on the room walls were done in colors chosen to harmonize with the accent tile colors.

PRESENTS PURCHASING PROBLEM

Furnishings and materials for the lounges and recreation rooms presented a special purchasing problem. The decorator drew designs and specifications for the first group of heavy pieces needed, but the bid request drew no satisfactory responses either on prices or design approximations. Consequently, cost estimates on the entire project were reviewed, careful calculations were made on the costs of service and office equipment, and these estimates plus the contracted costs of the room furnishings were deducted from the furniture budget. The remainder was then apportioned to lounges, recreation rooms, and porches to set up a maximum cost figure for each such area in each building.

The housing office carefully checked these estimates against cost figures for refurnishing a small lounge in an old hall and against various catalog prices. Then the decorator received the green light to purchase from his sources through the university the items and materials needed for lounges and

public areas in the two buildings scheduled for completion in September 1949.

After the decoration and furnishing of these two buildings were completed, the housing office reviewed net costs and further revised the budgets to provide a margin against rising costs and storage charges as the completion of four buildings was delayed by material shortages and construction contract disputes. The total funds available from the beginning were redistributed into the following categories:

1. Room furnishings, including venetian blinds for all areas.
2. Lounge furnishings, including the small, upper-floor lounges.
3. Recreation room furnishings.
4. Porch furnishings.
5. Apartment and suite furnishings.
6. Office and service equipment, including desks, file cases, vacuum cleaners, hand trucks, cleaning tools, and refrigerators and stoves for the kitchens.

CATEGORIES SUBDIVIDED

These categories were further subdivided to set up a cost sheet for each building for lounges, recreation rooms, porches and apartments or suites. Each purchase was charged to the proper fund category, and a control journal was maintained for the total fund. A first-class cost accountant on the housing office staff maintained an accurate, almost daily check on balances and margins. The end results of all this patient calculating, planning, checking and rechecking were:

1. Job completed with a comfortable balance for extras.
2. Building interiors pleasing, interesting and refreshing with basic themes smoothly varied from building to building, lounge to lounge, and floor to floor.
3. Almost universal resident and public approval of the project.
4. A vast fund of useful and practical information and records for future projects of a similar nature.

On the basis of this experience the following steps or procedures are recommended as fundamental for an economical and effective decorating and furnishing program, particularly on new buildings where enthusiasm tends to overbalance economics:

1. Assign an interested and willing staff member, preferably someone in a responsible position in the housing organization, as exclusively as possible to the task of gathering all

possible preliminary data on furnishings and learning everything possible about construction methods, designs, fabrics, finishes and production procedures.

2. Set up the furnishing funds clearly and definitely, with an adequate margin for unforeseen contingencies and with proper bookkeeping and cost accounting controls.

3. Obtain the services of an experienced designer-decorator on a clear and fair contract basis while the project is still in the planning stage, if policies will permit retainment so far in advance.

4. Obtain advice, suggestions and criticisms from all possible sources, particularly your maintenance men, but limit decisions to a small group composed, for example, of housing director, decorator, architect, purchasing agent, and business manager.

5. Agree on a general plan of approach and procedure and clear it to the institution's top authority.

6. Put the whole weight of the institution behind the project.

7. Draw clear plans and designs and tight specifications.

8. Buy on a competitive, sealed bid basis from reputable vendors wherever possible and purchase everything through the institution officially.

9. Strive for uniformity in basic furnishings wherever possible and bear continuously in mind the probable extension of new furnishings to refurnishing projects in older buildings.

10. Have one responsible and interested person in charge of the basic records—quantities, distributions, layouts, specifications, and order files—and make certain that all planning and buying records pass through his hands to be integrated into a total record.

11. Have the acquisitions of equipment classified, marked and recorded into an inventory system as soon as possible after their receipt and while cost and source information is still fresh.

JOB IS REWARDING

The planning and execution of a decorating and furnishing program such as has been described is hard work—let no one doubt that. But it is an interesting and rewarding job, requiring ingenuity, patience, foresight and teamwork; and, because of its call on creative and administrative talents, there is a rare and pleasant feeling of accomplishment when the job is done.

3. Esthetic Values in Residence Hall Furnishings

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HOW WILL THE ROOM BE USED? WHO will use it? How can we provide attractive, suitable furnishings that will give maximum service at minimum cost?

These are the questions a home economist raises (at least at the University of Alabama) when she works with the purchasing agent, the consulting engineer, sometimes with the president, and others concerned with the use of the building. These may be the dean of women or the dean of students, house directors, the director of alumni affairs, and/or students, dependent upon the project under consideration.

Since the area of specialization of a home economist working on such projects in a university would include furnishings, interior decoration, and fabric study, she knows textiles and

furniture construction as well as how to apply the principles of color, line and design to the selection and arrangement of furnishings. Her concern is with meeting the needs of those who will use the rooms. She is aware of the effect of good taste and unusual color schemes exemplified in college surroundings upon the developing sensitivity of the college student. She knows they will influence, often subconsciously, his own appreciation and understanding in the home he will make and his future contributions to the community.

The furnishings in each of the residence halls built at the University of Alabama in the last 15 years exemplify different color schemes. Also, they vary in character. In New Hall traditional Georgian designs in dark mahogany and walnut are used. Os-

band Hall, for girls, has a more formal modern effect than Fitts Hall, a men's dormitory. Both are in bleached or light woods. The women's parlor in Alumni Hall is the only room on the campus for which French provincial, in fruitwood, has been selected.

HOW WILL ROOM BE USED?

Both furniture and space in the lobby, lounge or living room of a university building are likely to be arranged differently from those of the average family dwelling. In a girls' residence hall the living room will be used by men and women. House directors point out that it is often crowded in the evenings and is used hard night after night. Arms of chairs or sofas, as well as coffee tables, may be chosen as seating space by a football player or an overweight "commerce" student.

West Annex living room has pine paneled walls and mirrored cornices. The modern oil painting over the fireplace provides the color scheme for the room.



This indicates a need for sturdy furniture construction, durable fabrics that will not soil easily, resilient upholstery, and chairs and sofas with wood arms or slanting arms that cannot be sat upon.

Some of the additional uses to which the girls' dormitory living room will be put are committee meetings, card games, singing around the piano or individual piano playing, or a "house" meeting. A card table and four chairs harmonizing with the furnishings, a spinet or an apartment grand piano, and as much seating space as possible are always provided to meet these needs. Since several activities may be in progress at the same time, furnishings are grouped to permit one student to talk with three friends from her home town who have driven by to see her, two couples to play canasta, and a young man to wait for his "date."

FIREPLACE CENTER OF INTEREST

In New Hall, a girls' dormitory built in 1938, the fireplace, with a pink-tinted mirror above it and the informally balanced furniture arrangement around it, serves as the center of interest. An alcove in one corner of the large room may be used by one or several students. Floor Plan A gives the complete furniture layout in this room.

The living rooms in the men's dormitories are much smaller than in those for girls. Here the students read, lounge, hold a small meeting, study together, or play cards.

In Alumni Hall the lobby and parlors are planned for the convenience of local and visiting alumni. During homecoming and other special occa-

sions they meet and chat with their friends. Sometimes small committee meetings are held there. Overnight visitors, using the upstairs guest rooms, may lounge in the lobby or join a group already engaged in conversation.

PLANNING COLOR SCHEME

Beautiful, harmonious colors in an interesting distribution throughout a room or group of rooms are an effective aid to obtaining the appropriate effect. Hues, values and intensities selected will vary to produce a background suitable for those who will use it.

The college men who live in Fitts Hall take pride in the vigorous, spirited effect achieved by the colors in the lounge. Here the draperies have widthwise stripes, irregularly spaced, of blue and shades of gray with an occasional striking tangerine (or orange-red). These draperies, pleated at the top and arranged in simple straight lines without a cornice, offer the color scheme for the room. The rug is a darker gray and the walls and ceiling are lighter. Two chairs on either side of the mirror and a lounge chair at the opposite end of the room are in tangerine. They are upholstered in a fabric made of fiber E, a curled wool-like rayon with a special finish that assures long service. The sofa is covered in a firm cotton material with a neutral background and a diamond shaped figure woven in navy blue. There is a pair of upholstered chairs arranged in front of the three windows. The pattern of the fabric, which is part wool, has in it all of the colors found in the draperies. The outside covering of the two chairs is navy

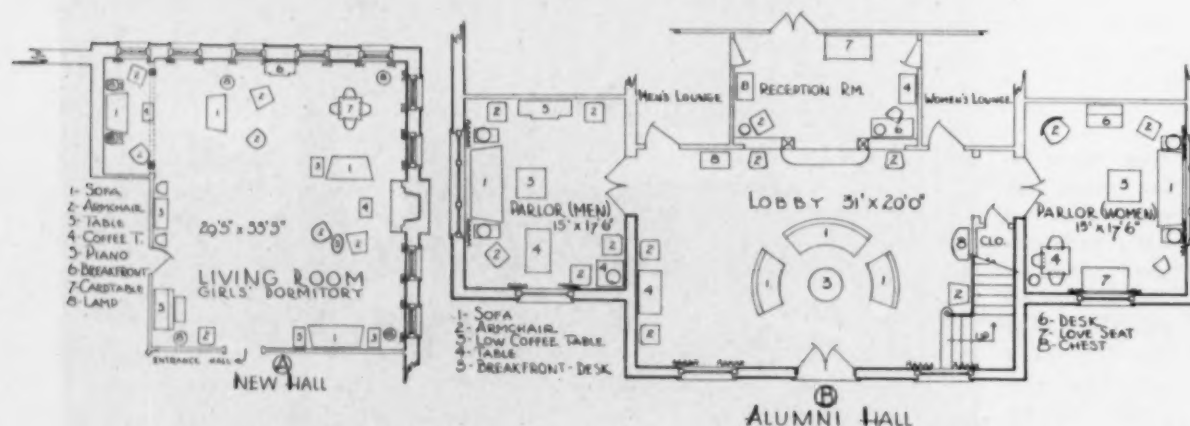
blue. Between them is a step table on which is placed a sturdy lamp in simple design. Near the entrance to the room are a bridge table and chairs.

The colors used in the furnishings in the living room in Osband Hall are unusual and entirely appropriate as a setting for young women. Here the rugs, walls and ceiling are the same shade of stone gray. The fireplace centers the room and is opposite the entrance door. It is placed in the half circle of the wall which extends out from the lengthwise wall of the room.

MAHOGANY AND WALNUT

The draperies are a soft gray-green, hung straight with pleated tops. The pair of chairs on either side of the mantel is aqua and the pair of settees is plum colored. Two torchieres in coral placed on either side of the mantel and behind the chairs give an effective note of interest. On the other side of the room a printed fabric is used on the inside of an upholstered chair in gray mohair with a stylized modern print that repeats the green and aqua. The outside of this chair is a dark bright green. The same color is used in a pair of chairs on either side of the entrance. Lamps have coral bases. Two "date" rooms open off the main living room. The woods used throughout are bleached mahogany and walnut.

In Alumni Hall the color schemes for the four front rooms were planned to show a friendly relationship; however, the values and intensities chosen for each area were appropriate to the character and use of the rooms. In the lobby at the front of the building and in the men's parlor the walls are



a soft warm gray and the ceiling is pale yellow. The women's lounge opening off the lobby has yellow walls and a gray ceiling, as does the small reception room just off the lobby and opposite the entrance door. All of the rooms are carpeted in a "tone on tone" beige rug. The three curved sofas are a striking color note in a persimmon (or rusty orange) textured mohair fabric. They are centered by a round coffee table, and the grouping is placed directly opposite the front door. This is a convenient arrangement for visitors and prevents making the center of the room a passageway. Upholstered chairs in the lobby are in brown or gold. Handsome hand-block printed draperies in Belgian linen with the design in rust, gold, brown, yellow and green are hung at the windows on either side of the front door.

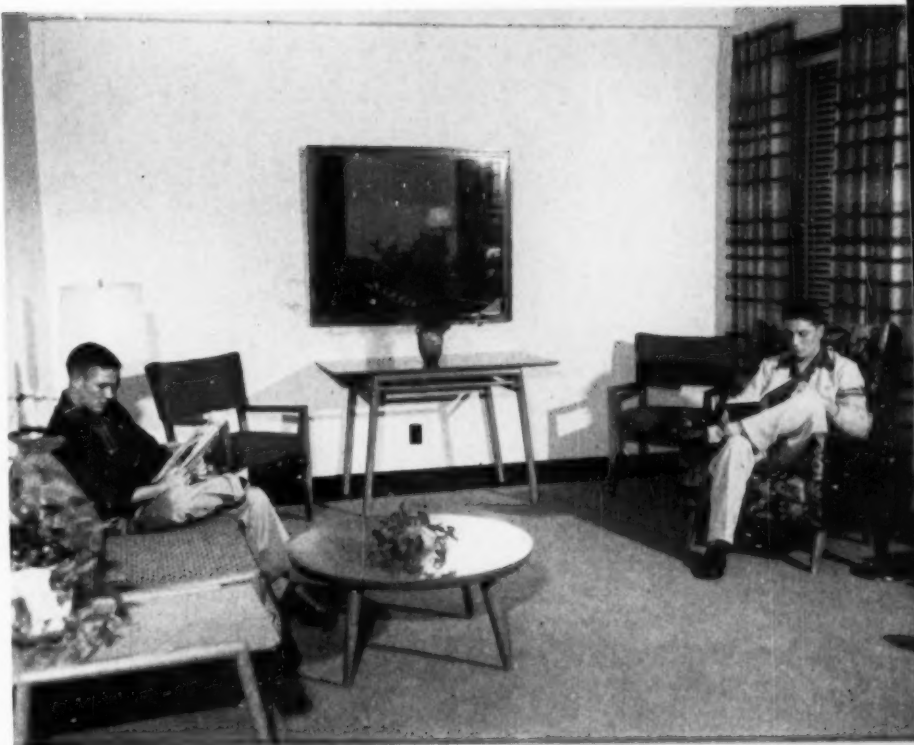
In the women's lounge French provincial furniture of fruitwood is used. The glazed chintz draperies have a stylized magnolia print. The sofa is in a quilted cotton brocade of soft green, a settee is upholstered in a grayed persimmon shade, one upholstered chair is in gold, the other in a delustered persimmon satin.

On the opposite side of the building the men's lounge has mahogany furniture in Georgian style, including a breakfront secretary and a table that can be used as a writing desk. The predominant colors in the upholstery and drapery are brown and olive green, with smaller amounts of orange and gold. The placement of furniture in the four front rooms, including the small reception room, which is elevated one step, is shown in Plan B.

UPHOLSTERED FURNITURE

All settees, sofas and upholstered chairs in the lounges and living rooms of university buildings furnished within recent years have been specified as having "hotel construction." Thus stronger, more durable hardwood frames, sometimes with extra reinforcement at points of strain, are provided. They are securely glued, doweled and braced.

Fabric webbing, firmly attached to the frame, is preferred as the base for the springs in these upholstered pieces. Coiled springs of enameled high tempered steel wire, fastened together to the webbing and to the frame with strong hemp twine, are usually specified. Additional layers include a fabric, such as burlap or canvas, placed over



Above: One end of the living room in Fitts Hall, for men, at the University of Alabama. Simple modern furniture is in light wood. Below: The lobby in Alumni Hall. Comfortable settees upholstered in foam rubber invite visiting alumni to meet their friends there.





Above: Furniture in Georgian design is used in the living room of West Annex, girls' residence hall at Alabama. Card table and chairs are in corner on the left. Below: A formal arrangement around fireplace in Osband Hall, another girls' residence hall.



the springs, stuffing, a smooth pad of cotton or felt, the lining, and finally the covering material.

The stuffing requested used to be, and in many instances still is, curled horsehair, for it retains its resiliency even with hard wear. However, within recent years foam rubber (not shredded rubber) has been used and found to be comfortable and durable. Foam rubber also is used now for reversible cushions in chairs and sofas. In the past, spring filled seat cushions were preferred. Usually they were slightly less expensive than down and retained their shape better with years of use.

The colors and textures of the upholstery fabrics chosen add to the interest of the whole effect. They must be resistant to excessive wear and easy soiling. Mohair frieze, which comes in a number of colors and some variety in weave, has proved durable. Other serviceable and beautiful fabrics are made from wool, mercerized cotton, delustered rayon, fiber E, nylon and blends or mixtures of these. However, when selections are made the manufacturer's guarantee regarding fading, mothproofing and wear are checked.

Wool rugs of good quality are always used. Usually they are Wilton or velvet broadloom. In placing these a border of floor 18 to 24 inches wide is left. In some of the large living rooms two or three rugs are used rather than one. This makes for ease in care and cleaning and may improve the apparent proportions of the room. The floors are oak laid in 12 inch squares and waxed. Rug pads of hair rather than jute are specified.

This plan for floor treatment has given good service. The burgundy rug in New Hall was in excellent condition when the upholstered furniture was recovered in the fall of 1952. The room had been in use since 1938.

Usually a leaf, fern or "tone on tone" pattern in a rug is selected. Such a rug shows dust and soil less than plain rugs do.

GETTING THE BID

The university representative works with decorators, furniture dealers or department stores who ask to bid. Quality of fabric, grade of rug, and type of furniture are selected. The lowest bidder that will supply the quality desired is given the contract. In some instances the rug and draperies may go to one concern and the furniture to another, but it is usual for one to be awarded the whole contract.

Most educational purchasing agents spend considerable time with each purchase of office equipment. A carefully developed decision to standardize on certain items will simplify the job on succeeding purchases.



PURCHASING TECHNICS

4. Office Equipment and Supplies

THE FIRST MAJOR PROBLEM OF THE college president regarding the purchase of office equipment and supplies is money—where to find it and how to obtain it. But most college purchasing agents are not worried about the money with which to buy, at least not whence it comes; rather they concern themselves with how to spend wisely what they have for what they need. Given the wherewithal, they spend it, and at the same time try to save as much of it as they can.

The careful use of available funds, then, is one of their most important jobs—and perhaps their biggest problem. However obvious, it is well to keep this in mind as we tackle the specific problems involved in the purchase of office equipment and supplies.

It is as easy to throw good money away on a poor purchase of paper, for example, as it is on a poor purchase of soap, or lumber, or furniture, or laboratory equipment. Conversely, a

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Purchasing Agent
Illinois Institute of Technology
Chicago

good purchase of these may save real money for better uses. The practice of good purchasing technics is important: Determine a need, set up sound specifications, select reliable sources for competition, buy the right item at the lowest price.

Perhaps we find ourselves following good practices in purchasing a piece of capital equipment. At one time or another, I'm sure every purchasing agent has made a painstaking project out of a major purchase of office equipment, so that he has become an expert in the field almost overnight, and afterward has felt satisfied with his achievement. Then, on the other hand, he may discover quite by accident that he has been buying rag content scratch pads or something similarly extravagant. We find that our biggest expenditures are actually for the items to which we may have a tendency to pay the least attention.

On the other hand, we can expend a great deal of time and effort in buying a costly piece of equipment, only to find that we made a poor purchase or a not-so-good purchase. Analyzing it will likely uncover a failure to ask the right questions or to get the right answers to them, or failure to follow good purchasing technics.

We must know what we are buying, and what it's for, and be sure we are going after the right item for the job. With a good set of specifications, some good records of experience, and a knowledge of sources—and perhaps also a girl who can type—the essential elements of a well oiled purchase are at hand.

I should like to mention the principal types of office supplies and equipment and bring out a problem or two peculiar to the purchase of the specific types.

We must all buy paper—duplicating, printing and writing papers, printed forms, mailing pieces, envelopes and specialties, adding machine rolls, file folders, and wrapping papers.

Presented at the annual convention of the National Association of Educational Buyers, Washington, D.C., 1952.

All are common to the office or the department providing office services. The market for these paper items is characterized by competition. From three to five bids at least are considered a "must" in paper buying. The repeat order, even for printed forms when type is standing, is an invitation to uneconomical buying. Paper is largely unstandardized by comparison with other commodities, so that careful specification is important in order to bring the bids into proper means of comparison. We need to know exactly what we will get, and we should check the shipment to see that we get it. For example, color differences and cutting irregularities can cause real hardship and expense. No amount of specification will ensure against poor cutting, but a bit of foresight in calling for and spelling out uniform quality, "or else," will make it easier for the buyer to insist on a favorable adjustment, if needed.

It pays us to pool our needs, lump our purchases, and make provisions for proper storage. We can't leave it to our secretary or office boy to pick up a few reams or boxes here and there. This also gives us a chance to accept a normal delivery schedule and avoid the premium price of a rush order. The hundred-thousand price or the ton price or the carload price will really save money for the institution.

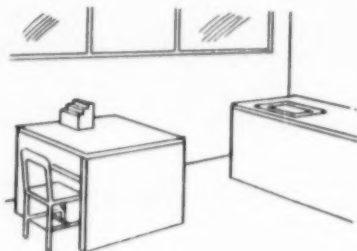
DIFFERENT APPROACH

Other supplies, both durable and expendable, such as staplers, staples, punches, pencils, clips and ink, require a slightly different approach. We might also include in this group such items as carbon paper, duplicating stencils, graph papers, drawing papers, and sensitized papers. Here is the place to have a good wholesale stationer, or two or three, but at least one good one. A fair degree of standardization is present with these items, and channels of distribution, together with retail prices, are relatively fixed. Although competition, especially on large purchases, is still important, that need not involve bids for every need. It is handy to establish a long-discount arrangement with a reliable wholesaler and be relieved of some of the lesser buying worries.

Best of all is the arrangement that includes the institutional book and supply store. The value of such an activity as a purchasing medium of the institution cannot be overemphasized. It is

particularly advantageous in the purchase of miscellaneous office supplies, not to mention a wide variety of other items on which long resale discounts are obtainable. Favorable contacts can be arranged with the manufacturers or jobbers, depending to some extent on the retail volume, of course. Such things are not automatic, however, because the buyer must do a negotiating job to establish the contacts, and should review them frequently, perhaps with the cooperation of the store manager.

To the buyer office equipment of most types presents a different problem than supplies. Item cost is high, and purchases are bound to be fewer. Most educational purchasing agents spend considerable time with each purchase of office equipment, unless



he already has some favorable arrangements (such as the Cooperative) for ordering some of his needs in a routine manner. A carefully developed decision to standardize on certain office furniture, for example, usually will simplify the job on those items for succeeding purchases. The buyer starts from the beginning, determining needs and setting specifications, selecting reliable sources, then comparing quality of construction, appearance, ease of operation, ease of maintenance and replacement. He weighs all the factors against first cost, upkeep and resale value. The selling price of the item cannot be the only consideration, although it is 'always important.

A quite different problem is involved in outfitting a new office than in replacing some used furniture with available like items. The problem of steel *vs.* wood comes up rather early, and we perhaps find ourselves weighing the appearance and warmth of wood, for instance, against the utility and durability of steel. With replacements, on the other hand, matching is a primary problem. One handy so-

lution is completely to outfit an executive office and judiciously distribute the old pieces. In any event, the buyer has less of a problem if he or his predecessor has been careful to consider the problem of replacement in making the initial purchase. Special requirements of one sort or another do create problems, but the good buyer always tries to keep things standard, considering stock items if possible, for lowest cost, quickest delivery, and easiest maintenance and replacement.

For other office equipment—office machines, duplicating equipment, recording and other labor saving devices—the buyer often finds his greatest problem solved when the machine or device that exactly meets the need is located. Determining that exact need is important, and usually requires the cooperative planning of several individuals. The purchasing agent should be apprised of the considerations, should assist with gaining sources and information, and should at least participate in the decision.

Of the commoner office machines, such as typewriters and adding machines, the models and prices are well standardized, and the longest discount is likely to close the deal on succeeding purchases for some time to come. Nevertheless, it pays also to look at performance records, maintenance costs, ease of operation, and even the desires of the operators.

QUESTIONS TO BE ANSWERED

Some special problems that exist with office equipment—questions that must be answered when procuring—are: Shall we rent for a time the item we need or shall we purchase outright? Shall we buy a small one or a big one, a hand model or the electric? Shall we buy a maintenance agreement or maintain only by emergency calls as needed? Shall we buy the repairs or other services required or provide for them ourselves?

It is well for the buyer to ask such questions, or other pertinent questions, when buying all types of office equipment and supplies. And having asked the right questions, it follows he must know where and how to produce the right answers if he is to avoid that "poor purchase." It pays to work closely with the person or persons who are responsible and who will use the item being considered. We must consult with others who conceivably can help do the job.

5. Maintenance and Housekeeping Supplies

RUSSELL E. TILT

Business Manager,
Western Reserve Academy, Hudson, Ohio

WHAT SHALL I BUY? WHERE SHALL I buy it? Does the result justify the cost? What are the new products on the market?

With a constant flow of salesmen into your office, each claiming to have the best maintenance materials on the market, and all showing copies of purchase orders or letters extolling their products from recognized buyers, what chance does the educational buyer have of getting the best? Surely some of the products are better than others, and it is not always true that the most expensive is the best buy.

SELF-POLISHING WAXES

Take self-polishing waxes, for instance. One testing concern, in rating 14 or 15 brands ranging in cost from 51 cents to \$1.59 a quart, stated that the one selling for 90 cents was the best all round wax, while others selling in the 52 to 65 cent class were good. A number in the 51 to 88 cent group were eliminated for poor wearing qualities or for various other reasons.

Of course, the most important item in the best floor waxes is canauba wax. This wax comes from Brazil only, where it is obtained from the leaves of the canauba palm. Canauba is the hardest vegetable wax known which will take a high hard polish. Candelilla wax, paraffin wax, and resins are being used, but a good wax cannot be made without canauba wax. In order for you to know what you are buying, it seems to me that the manufacturers should be willing to print the contents of their products on the labels. Until such a listing is provided, there are a few helps in determining the qualities of some of the waxes.

A low quality wax has a greasy look when dry. Such an appearance shows the presence of paraffin wax. The film is soft, mars quickly, and will shed water right after drying. Most of the good waxes have to dry awhile before becoming water resistant.

From a paper presented at the convention of the National Association of Educational Buyers, 1952.

Candelilla wax does not emulsify well. It is softer and gives a rather tacky film that tracks easily and therefore is hard to clean. When you rub your fingers over such a waxed surface, you will see a mar and feel a noticeable drag, showing that candelilla or other wax substitutes were used.

Resins are being used to make floor waxes. They make a good looking product but have a tendency to produce a sticky surface. A floor so treated is hard to sweep and mars badly. In order to detect resins in a wax, apply some of the material on a piece of glossy paper. Let it dry; press your finger down on it hard. If the paper sticks to your finger a few seconds, the product no doubt contains resins.

FLOOR SEALS AND FINISH

Floor seals are a varnish long in oil, meaning that the amount of drying oil is greater than that of the resins. Floor seals must be made of a tough, flexible material. It is best that they be slow drying to produce a hard elastic coat. One way to test a product is to put a small amount on a piece of glass and see how long it takes to dry. You can also soak a piece of cloth in the seal, let it dry, and then test its flexibility. If the cloth is stiff and hard, the seal will not be very good for floors; flexibility is lacking.

PENETRATING SEALS

Some salesmen will show you a wood sample and point with pride at the edge of the grain to prove how deep their product has penetrated into the surface. Such penetration does not really mean much because a seal that soaks in too deeply shows a low solid content and leaves little wearing material after drying.

While a good wood floor seal should contain about 40 per cent solids, a terrazzo floor seal seldom contains more than 12 per cent. If you are considering sealing a concrete or terrazzo floor, an inexpensive and effective

way is to use 2½ pounds of magnesium silico fluoride crystals to a gallon of water. This solution is brushed or mopped onto the floor in three applications, 24 hours apart. A rubber base material recently has come on the market to seal terrazzo floors; whether it will stand up in service remains to be seen.

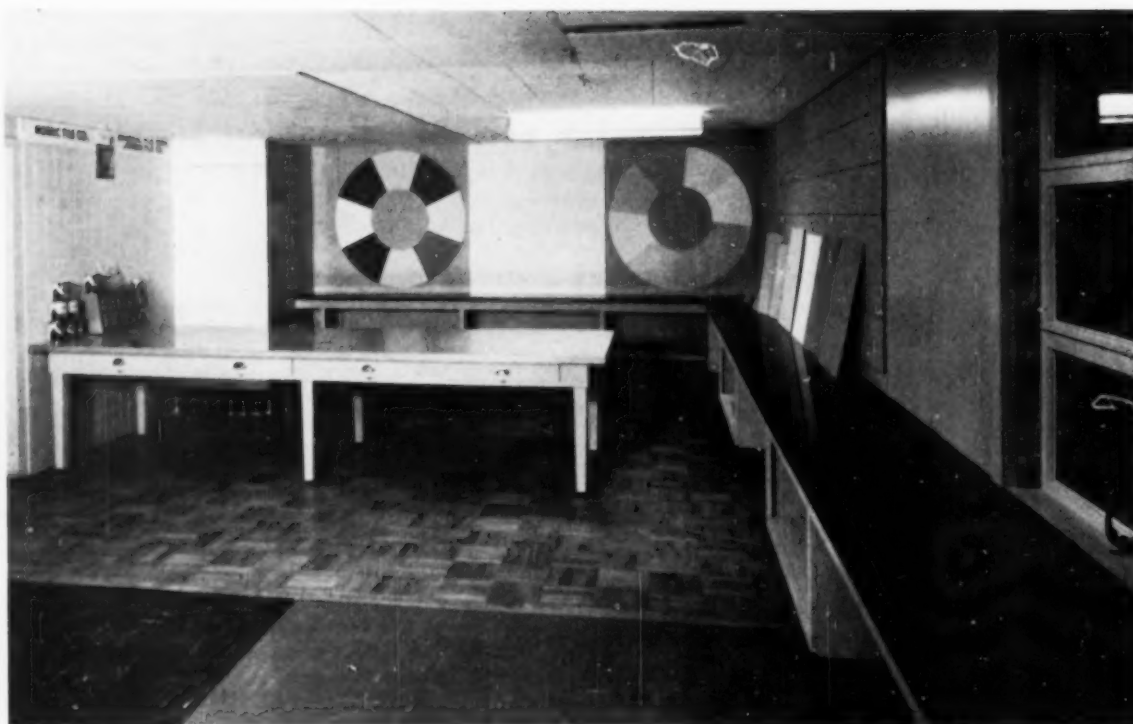
If concrete floors are to be painted, our tests have proved that the new rubber base floor paint is far superior to regular floor paints. The rubber paints are immune to alkali and resist the dampness that might be present on some floors. A test made by a rubber company consisted of comparing the resisting quality of regular floor enamel, phenolic enamel, and rubber enamel. An abrasion machine and alkaline solution were used, resulting in removing 50 per cent of the ordinary enamel after two strokes; 33½ per cent of the phenolic enamel after 6000 strokes; 5 per cent of the rubber enamel after 43,000 strokes.

WINDOW CLEANERS

Most of you have been intrigued by some of the window cleaning materials on the market today, especially when you see attendants at filling stations using them on windshields. Most of these cleaners contain alcohol, glycerol or ethylene glycol. If you watch a professional window cleaner, however, you will find he uses water only, with a squeegee. He adds a little alcohol or ammonia when it is very cold or when the glass is exceedingly grimy. I feel that the cost of strong cleaners is unnecessary and that their use has a tendency to penetrate into cracks between the putty and glass, causing more trouble than water would. The use of some cleaners also complicates the painting of the sash around the glass.

SPONGES

Deep sea sponges are not being used as much as they formerly were. The cellulose sponge has taken their place. Instead of buying the regular cut cellulose sponge, it is possible to buy this



Construction materials laboratory at Stanford University.
In this sort of setting maintenance supplies can be tested.

material in slab form at a great saving. This bundle weighs a pound and costs \$1.95 in small quantities. An equal weight in the cut sponge, not cellophane wrapped and not regular in size as are the cellophane packaged ones, costs \$5 or more. Our workmen prefer the slab sponges to any of the cut type. The slabs can be readily cut to any desired size, and the thinner material seems more adaptable to most types of work.

DOOR CHECKS

All schools use a great number of liquid door checks, and while a good check will last quite a long time without giving trouble, the cost of repairing it when it does go bad is considerable. The first cost on the liquid checks is high, too. For about half that cost it is possible to get spring checks which will do the work on most doors and which are simple to repair.

COVERING DESK TOPS

The refinishing of marred desk tops and tablet arm chairs always has been a problem. It has been costly to recondition them, and the surface soon becomes scratched again. Nowadays your own maintenance men can glue on the desk top one of the several

types of plastic sheets and the result presents a fine appearance. The new surface is scratchproof and marproof; a cigaret will not burn it, and it is easy to keep clean. This material also may be used for kick plates.

BLACKBOARD ERASERS

Blackboard erasers can be made from scrap air foam sheets. Such material can be obtained from any rubber company supplier. Glue it to a backing of wood, using any size you care to. This eraser far surpasses a felt cleaner. It is a timesaver in cleaning chalk marks from the boards and retains more dust before it has to be cleaned; it can be washed off under a faucet or cleaned in the same manner as a felt eraser.

CLEANING PAINT BRUSHES

There is a new material for cleaning paint brushes that far surpasses anything we have used before. Formerly, when a brush was washed out in turpentine, gasoline or linseed oil, the bristles would stiffen, requiring considerable working up before being ready to be used again. With this new product you can clean the paint out of a brush quickly and switch to another color immediately. If a brush

is cleaned for future use, it will stay soft and pliable without its being covered in any way. After the paint has been allowed to settle at the bottom of the liquid, the cleaner can be poured off and used again and is then just as effective as at first. Paint rollers can be cleaned in the same manner.

FEEDING CAMPUS TREES

In your efforts to create a more beautiful campus, you probably have cleared the lawns of all the leaves and other natural humus for trees; therefore, feeding becomes a necessity. Some schools feed their own campus trees; others have experts do the job. All are particularly concerned since the start of the Dutch elm disease, and all have been taught that a healthy tree has a better chance of survival. It is possible to do the feeding reasonably with a $\frac{3}{4}$ inch electric drill (a $\frac{1}{2}$ inch drill will do if the soil is not too heavy) and the proper ground auger to bore the holes. The auger costs \$3.50. With it one man can feed a number of trees in a day. The fertilizer used in filling the holes is 10-6-4. Besides helping the trees, such feeding aids greatly in maintaining a good lawn under the trees, for trees have a tendency to take all the nourishment from the grass.

These are only a few items of the host that constitute buying problems.

DURING THE LATTER PART OF 1952, two of the high courts of the nation added a chapter to the story of the long and bitter controversy over the legality of loyalty oaths. On Oct. 17, 1952, the supreme court of California handed down the long-awaited decision of the University of California loyalty oath case and those involving the constitutionality of the Levering Act.¹

In a unanimous decision,² the court outlawed special oaths for state employees, such as the one demanded of the University of California faculty by its board of regents, on the grounds that the state legislature by passing the Levering Act requiring all state employees to take a loyalty oath had preempted the field to the exclusion of similar action on the part of the regents of the university.

The following is from the opinion of the court, written by Chief Justice Gibson:

"The loyalty of state employees is not a matter as to which there may reasonably be different standards and different tests but is without doubt a subject requiring uniform treatment throughout the state."

On the Berkeley campus of the University of California, Dr. Edward C. Tolman, spokesman for the 18 professors who refused to sign the controversial oath, expressed "delight at the victory upholding the faculty members . . . who elected to stand firmly against imposition of special and discriminatory so-called loyalty declarations. In vindicating the nonsigning professors, the decision as well vindicates their faculty colleagues who so steadfastly supported them morally and financially, those members of the regents of the university who fought for them, and the distinguished alumni who stood by their side.

"We believe that the decision augurs well and happily for an end to the controversy which so sorely tried the university we love."

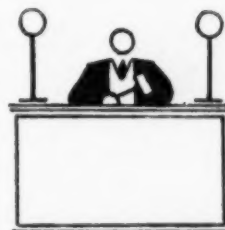
The order of the court, requiring the regents to reinstate the 18 professors if they signed the statewide Levering oath, may prove to be an empty gesture since almost all of them received permanent appointments at other institutions many months ago.

During the same week, the supreme

THE LOYALTY OATH AND THE COURTS

T. E. BLACKWELL

Vice Chancellor and Treasurer
Washington University, St. Louis



court of California upheld the constitutionality of the Levering Act by a series of decisions. One of the cases involved the dismissal of an associate professor at the San Francisco State College.³ Unlike the University of California decision, the Levering Act decisions were not unanimous, and the following is an excerpt from the vigorous dissent of Justice Carter:

"The majority of this court, by its decisions in these cases, is forsaking its sworn duty to support the constitution of the state of California, and has abdicated its powers, for the sake of expediency, to uphold an act which invades the constitutional guarantees of civil liberties of those affected by its mandates."

On Dec. 15, 1952, the Supreme Court of the United States, in the Oklahoma Agricultural and Mechanical College case,⁴ pronounced Oklahoma's "loyalty" law unconstitutional. The decision was without dissent.

The court, in a series of prior decisions⁵ had upheld the constitutionality of "loyalty" statutes in California, New York, and Maryland. One of these earlier cases had involved an employee of the board of public works of the city of Los Angeles. In deciding that the oath required did not contravene "due process," the court had

stated specifically that it was basing its decision upon the assumption that the city of Los Angeles would have permitted an employee to show that his membership in the subversive organization in question had been held without actual knowledge of its disloyal character.

However, in the case of the Oklahoma statute, the court, upon examination of the record before it, came to the conclusion that here knowledge was not a factor. Membership alone would disqualify one. Justice Clark, speaking for the court, declared:

"Indiscriminate classification of innocent with knowing activity must fall as an assertion of arbitrary power. An oath so broad, one covering past associations which were well meant as well as others that might be intentionally subversive, offends due process.

"A state servant may have joined a proscribed organization unaware of its activities and purposes. In recent years, many completely loyal persons have severed organizational ties after learning, for the first time, of the character of the group to which they had belonged."

The following excerpt is from the concurring opinion of Justice Black:

"Our own free society should never forget that laws which stigmatize and penalize thought and speech of the unorthodox have a way of reaching and ensnaring many more people than at first intended. . . . I cannot too often repeat my belief that the right to speak on matters of public concern must be wholly free or eventually wholly lost."

Justice Frankfurter declared: "To regard teachers—in our entire educational system, from the primary grades to the university—as the priests of our democracy is not to indulge in

¹Packman v. Leonard et al. 249 P2d. 267.
²Fraser v. Regents of the University of California et al. 249 P2d. 283.

³Bowen v. Los Angeles County et al. 249 P2d. 285.

⁴Hirschman et al. v. Los Angeles County et al. 249 P2d. 287.

⁵Horowitz v. Conlan 249 P2d. 290.

Hanchett v. Lehman 249 P2d. 290.

⁶Wieman v. Updegraff (citation not yet available).

⁷Garner v. Board of Public Works 341 U.S. 716 (1951).

⁸Adler v. Board of Education 342 U.S. 485 (1952).

⁹Gerende v. Board of Supervisors 341 U.S. 56 (1951).

¹California Statutes 1951. 3d Extra Session 1950, Chapter 7, page 15.

²Tolman et al v. Underhill et al. 249 P2d. 280.

hyperbole. . . . They cannot carry out their noble task if the conditions for the practice of a responsible and critical mind are denied to them. They must have freedom of responsible inquiry, by thought and action, into the meaning of social and economic ideas, into the checkered history of social and economic dogma."

Many have mistakenly assumed that the loyalty oath controversy is of recent origin. On the contrary, public school teachers were required by statute to take oaths of loyalty during the critical period of the War Between the States. From 1862 to 1867, Arkansas, California, Kentucky, Missouri, Nevada, Oregon and West Virginia attempted, by legislation, to weed out instructors of doubtful loyalty to the federal government.⁶

After the Russian Revolution in 1918, the question of disloyalty of members of the teaching staff of the public schools of the city of New York began to make the headlines in the public press. In 1919, the New York legislature organized the Lusk Committee⁷ and in 1921 the widely publicized "Lusk Laws" were enacted over the veto of Gov. Alfred E. Smith. They were repealed in 1923. However, since the end of World War II, when the conspiratorial nature of the Russian menace has been more clearly recognized, public demand for protection against the disloyal public servant has greatly increased. At least 33 states have enacted legislation in this area.

The Feinberg Law in New York⁸ and the Ober Law in Maryland⁹ have been upheld as constitutional by their own state courts.

A brief bibliography for those desiring to pursue a further inquiry into this controversial problem is given.

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⁶Reutter, E. Edmund, Jr.: *The School Administration and Subversive Activities*, Bureau of Publication, Teachers College, Columbia University, N.Y., 1951.

⁷Chamberlain, Lawrence H.: *Loyalty and Legislative Action*, Cornell University Press, Ithaca, N.Y., 1951.

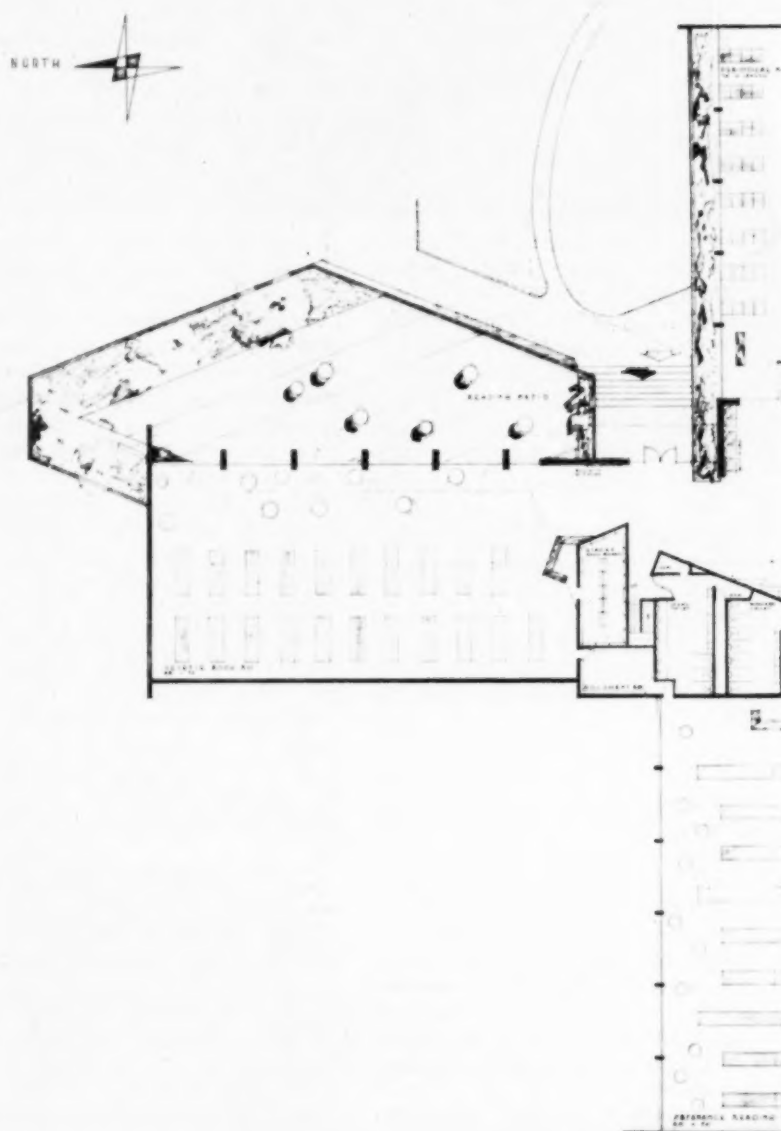
⁸Lederman v. Board of Education 96 N.Y.S. (2d) 466 (1950).

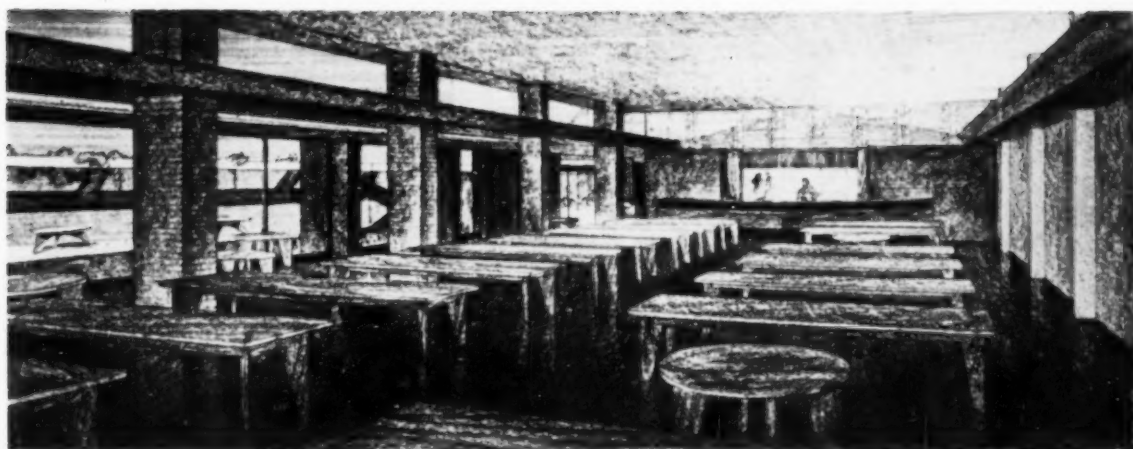
⁹Hammond et al v. Lancaster et al. 71 A (2d) 474 (1950).

LIBRARY *for a new college*

HOWARD H. MORGRIDGE

Marsh, Smith & Powell, Architects
Los Angeles





Interior view of the reserve reading room looking into the outdoor reading court. Note indirect lighting in main room.

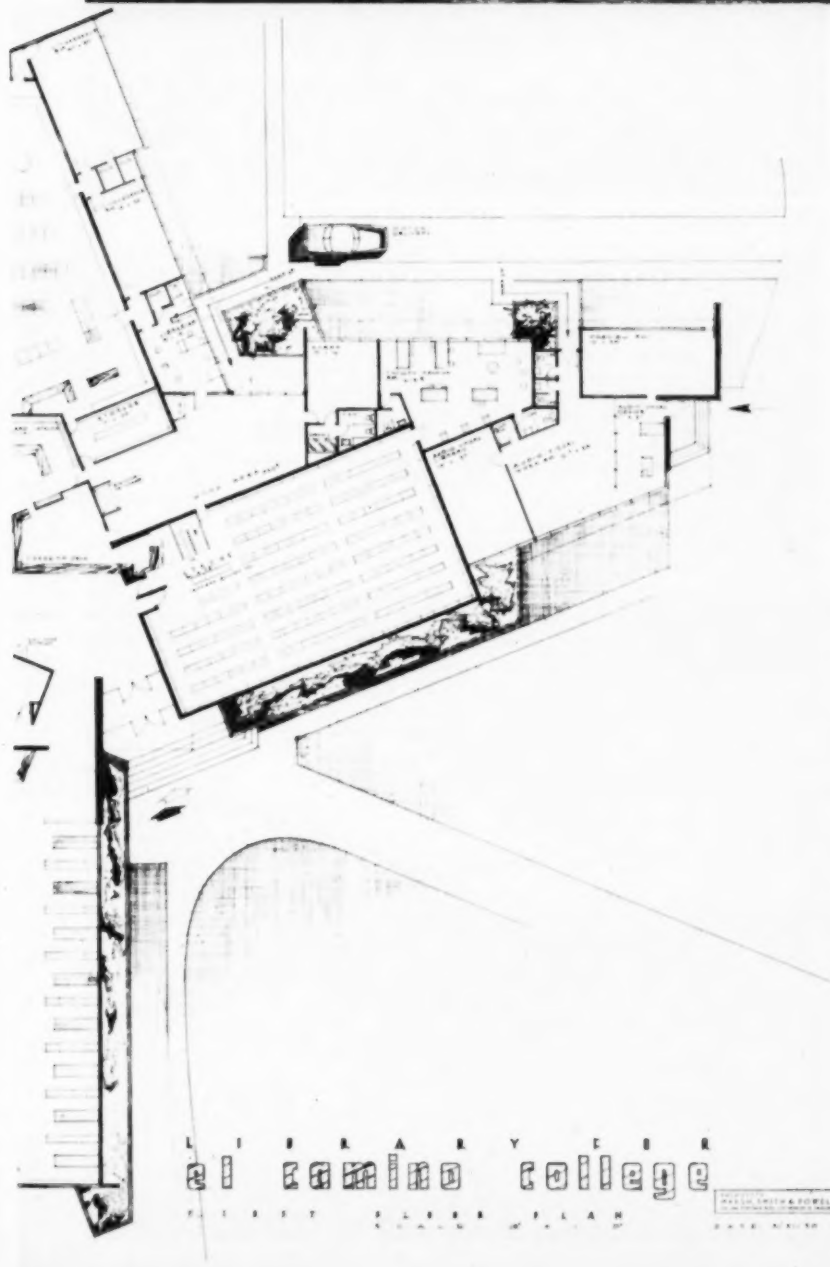


THE NEW LIBRARY BUILDING AT EL Camino College is the eighth major building to be erected at this two-year public community college created some six years ago. It is situated adjacent to Alondra Park, a Los Angeles County park of approximately 319 acres located 10 miles southwest of the city of Los Angeles. The college plant, on a 90 acre site, has developed rapidly to meet the growing enrollment which now has reached 4500.

The library, located in almost the exact center of the campus, has developed as the hub of the site plan pattern from which the two major axes have been resolved. These axes, formed by the angle of the property lines and adjacent streets, have indirectly dictated the unusual form of the building. The floor plan, which is basically a cross, tailored to conform to the site plan, features a central lobby convenient from the major circulation arteries on both sides of the building.

From this lobby the major plan elements radiate like the spokes of a wheel: reference reading room, reserve reading room, periodical reading room, stack room and staff work areas and restrooms. Dead storage space and heating and ventilating equipment are located on a second floor area at the center of the building over the lobby.

Some of the interesting facts about this new library building are presented in the construction details outline on the following page.





EL CAMINO COLLEGE LIBRARY: Perspective view above; periodical reading room, below.

BUILDING AREA: 18,985 square feet (without reference reading room 50 by 100 feet). Second floor: 5600 feet. Shelter and connecting arcades: 415 square feet. Cubic content: 390,000 feet. Book capacity: 85,000 volumes.

EXTERIOR CONSTRUCTION: Foundations, concrete bell-bottom caissons so used because of the adobe soil condition. Walls, reinforced concrete with face brick in some areas used as accents. Floors and roof slabs, concrete, pan joist construction.

HEATING AND VENTILATING: Hot water, forced air system with baseboard convector type auxiliary heaters where re-

quired. (Hot water source is a central heating plant in near-by building.)

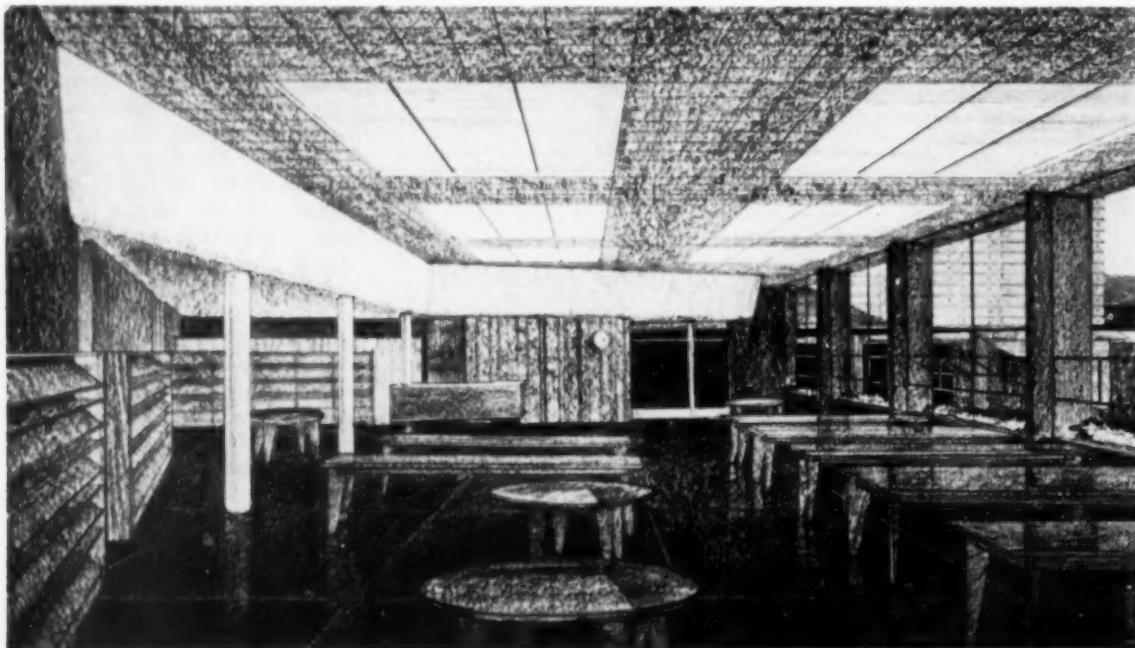
LIGHTING: Reading rooms employ thin line fluorescent fixtures; in high ceiling areas light is totally indirect; in lower ceiling areas, thin line fluorescents have been employed above white plastic ceilings which provide high intensity light with low brightness ratio. Workrooms, thin line fluorescent fixtures mounted flush with the ceiling with drop lenses for light distribution.

ROOM FINISHES: Floors throughout all public areas, 5/16 inch cork tile. Toilet room floors, ceramic tile.

CALL SYSTEMS: Local intercommunication system between charging desks, the principal reading rooms, and work area in the librarian's office. Loudspeakers distributed throughout the entire building and connected to central control room in administration building, from which public address system is controlled.

ELEVATORS: Hydraulic service elevator located in the library workroom, connecting dead storage space on second floor with service element. Dumb-waiter of sufficient size to take book carts connects two levels of stack room.

COSTS: Total, \$412,870. Cost per square foot, \$16.40; cost per cubic foot, \$1.04.



LOCATED IN THE SOUTHWEST SECTION of the grounds, the new Brunn-Maier science and library building is the latest addition to Concordia's growing campus. It is composed of two main units, the Arthur Brunn Science Hall and the Walter A. Maier Library. The new building, faced with brick and trimmed with limestone, has modern architectural lines in harmony with the design of the existing buildings. It is constructed of reinforced concrete and is completely fireproof.

SCIENCE and LIBRARY

buildings are combined

HERBERT THIEN

Department of Public Relations
Concordia Collegiate Institute, Bronxville, N.Y.

LIBRARY

The reading room on the main floor, seating 100 students, contains 8000 volumes on book ranges lining the walls. The large picture window facing the inner campus and the browsing alcove are particularly attractive features of the room. The furniture is of modern design in light birch.

The library offices are on the south side in the reading room. The librarian's office, the cataloging room, and the book bindery are on floor level. The three rooms on the mezzanine are used for preserving historical records, filing and student conferences. Stacks are located on the ground floor with space for 30,000 volumes. Six study carrels for individual research are located in the stack room.

SCIENCE HALL

In the science hall are laboratories for the departments of physics, biology, chemistry and home economics.

The physics unit on the ground floor consists of the laboratory with complete facilities for 24 students and a second laboratory for advanced work.

Both rooms are fully equipped with electricity, gas, water, air and vacuum. The workshop provides for development and repair work. The storage rooms for chemistry and biology and a fireproof vault are also on the ground floor.

The two biology laboratories are on the first floor. The laboratory for general biology is fully equipped for 34 students. A second laboratory is completely equipped for advanced courses in biology, for work in bacteriology, anatomy and genetics. A preparation and supply room, an office for the staff, and three illuminated display cases in the corridor complete this section.

The chemistry facilities, located on the second floor, consist of two laboratories, a supply room, a balance room, and a staff office. The general chemistry laboratory has complete facilities for 48 students in first-year chemistry and for 24 students in qualitative analysis. All student tables are

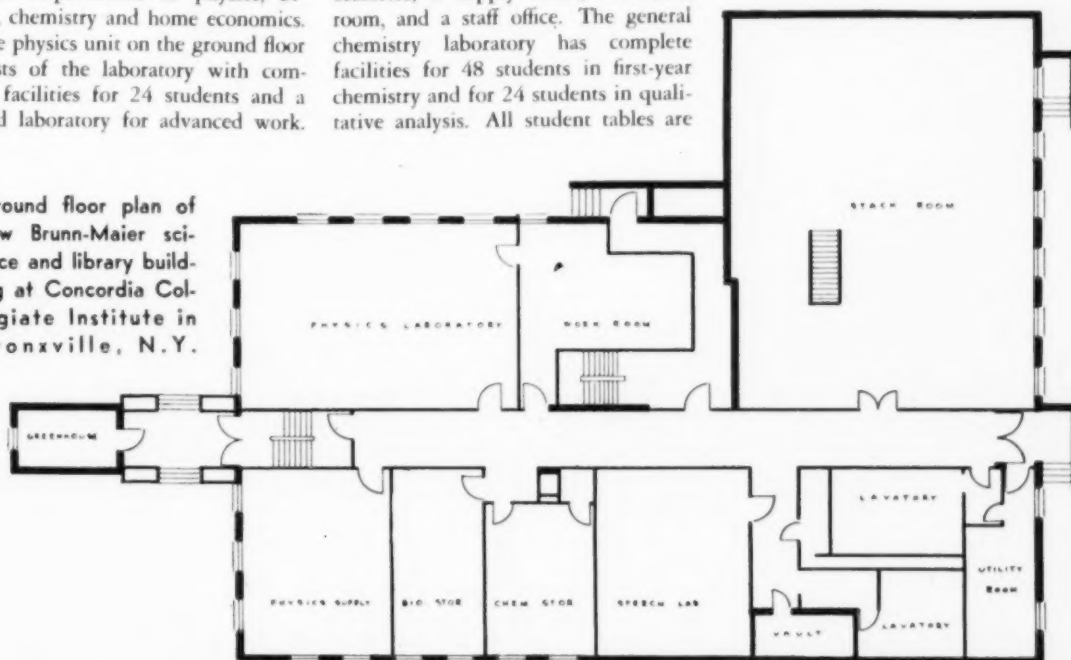
ventilated with forced downdraft ventilation.

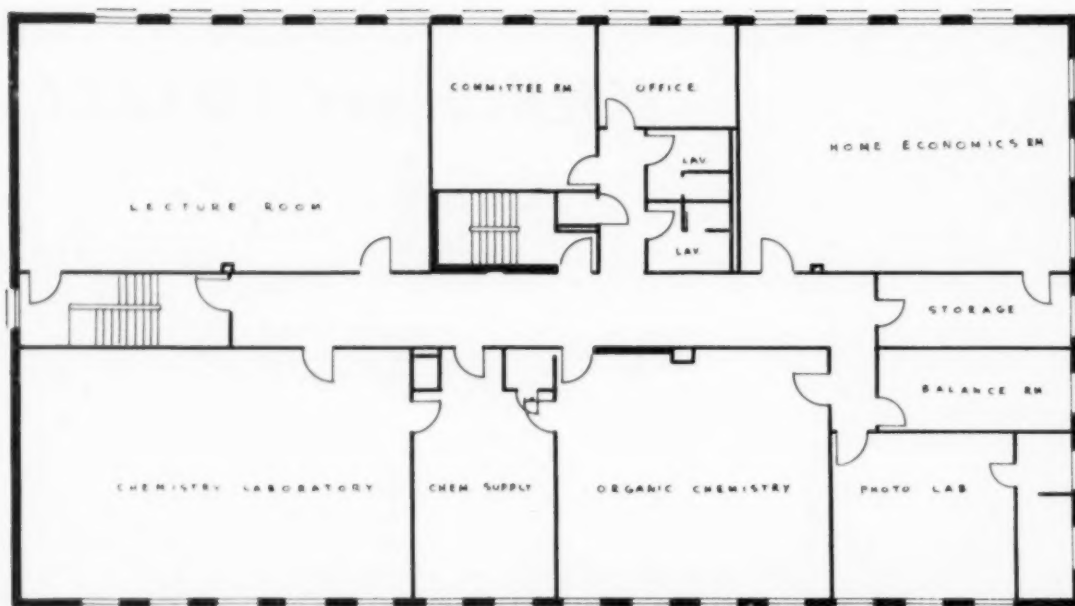
The advanced laboratory for organic chemistry and quantitative analysis is completely equipped for 15 students. In addition to the customary utilities, the room is equipped with three fume hoods, and the student tables with steam, air and vacuum.

The tiered lecture room with seats for at least 80 students will be used for lectures and demonstrations by all the science departments. Provision also has been made for a complete program in visual education.

The home economics laboratory is planned for the teaching of the finer aspects of homemaking, in addition to instruction in nutrition, clothing design, child care, and related subjects.

Ground floor plan of new Brunn-Maier science and library building at Concordia Collegiate Institute in Bronxville, N.Y.

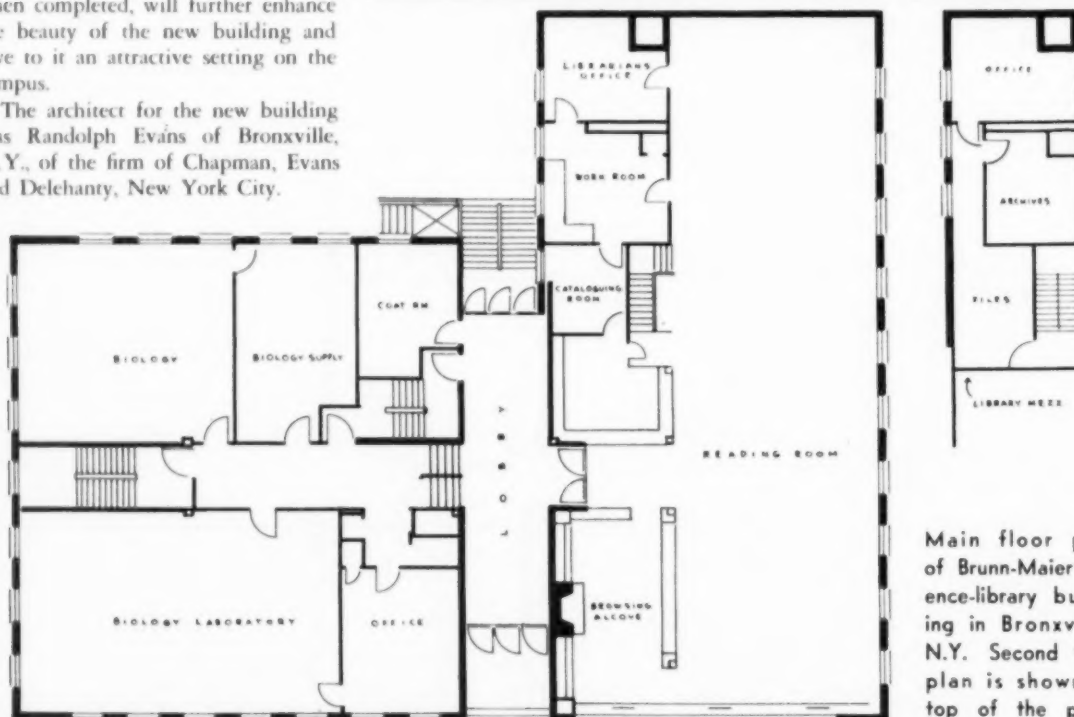




A photographic laboratory for the preparation of transcripts and teaching aids is located on the second floor. For the courses in astronomy, there is an observatory on the roof. A small greenhouse for the courses in biology adjoins the building on the south side. A section of the stack room, not immediately required for the storage of books, has been set aside as a student center.

The landscaping of the grounds, when completed, will further enhance the beauty of the new building and give to it an attractive setting on the campus.

The architect for the new building was Randolph Evans of Bronxville, N.Y., of the firm of Chapman, Evans and Delehanty, New York City.



Main floor plan of Brunn-Maier science-library building in Bronxville, N.Y. Second floor plan is shown at top of the page.



COST ACCOUNTING

can save the college money if it is properly used

THE PROBLEMS OF COST ACCOUNTING in institutions of higher learning are attributed mainly to the institution and to the accountants.

The institutions are behind; they are far behind. Why? One reason is the fact that the institution's stockholders, the taxpayer and the donor, have not been as exacting as the stockholders of our industries. Then, too, the initial cost of a cost system has probably frightened some of them away, since all the budget is currently taken for other items.

The accountants of the institution are behind, also. They have not sold management on the fact that a cost

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problem does exist, that this problem can be solved to a practical degree, and that the cost of such an installation can be saved many times over by the information this management tool can present.

A cost installation immediately indicates efficiency; if the installation is fitted to the particular situation for which it is being used and if management is using the information, it will in all probability mean efficiency. When I think of efficiency in colleges and universities, it always brings to mind what Trevor Arnett had to say about college administrators: "Honesty of conduct is not enough; there must needs be efficiency."

Cost accounting is the means all successful enterprises use to report whether or not they are able to remain in the competitive market, since no business can survive over an extended period if it is selling its product at a loss. If private enterprise needs this information, institutions do too, because the educational processes have become big business. The management functions within the institution are becoming more pronounced each day, and the thought that "we are here to educate and not to keep records" must be remembered, but record keeping must have a place in the budget, since management needs financial reports for its decisions.

Institutions do not have the same direct competition as business enterprises since they are state supported or

From a paper presented at the annual meeting of the Southern Association of College and University Business Officers, Clemson, S.C., 1952.

privately endowed, but the college administrators are ultimately competing with themselves in making the annual appropriations fulfill the many obligations and responsibilities placed upon them. Salaries are rising along with the costs of materials and services; annual appropriations are totaling such sums that the legislative bodies are becoming more concerned, and it becomes essential that the administrators get full dollar value when money is spent.

BASIC INFORMATION NECESSARY

It becomes necessary to know basic information in order to ensure that an efficient operation is being carried on. Such questions as how much is being spent on the repair of obsolete equipment and on the maintenance of worn-out vehicles, the cost of manufacturing office and classroom furnishings, and many other like questions have to be solved and determinations made.

I am sure all institutions have used the approach to budget justification of adjusting the current budget to the index dollar and projecting that further as to the amount available per student. How many institutions are able to justify their budgets by comprehensive cost studies? This should be the goal, and with the information presented in an understandable manner budget appropriations should be simpler and the doubts of legislative groups partially removed.

The best means of gauging the operation is by compiling current cost during a given period for a particular service or unit of production, not by allotting the same amount of money for a similar service rendered last year and comparing the amount of service received currently with the past service. If the operation has been performed previously, expected savings should be evident in subsequent performances.

Some of the immediate uses that can be derived from a cost installation are:

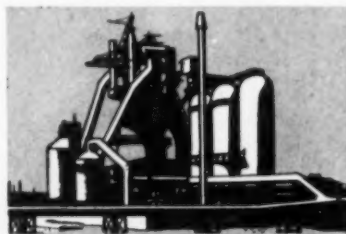
1. Preparation of a budget comparison of labor, materials and expenses for similar jobs and services for a like productive unit.
2. Preparation of reports on spoilage, scrap and defective work.

Without reports of this nature, it is doubtful such work would ever be known at management level. Of course, management would find some of this waste through complaints from

departments and some through "spot inspection," but in order to have a complete and uniform operation it should have such information forthcoming continuously.

3. Reports revealing the efficiency of the individual worker for a given period of time to compare to previously determined standards and to the production of co-workers. Reports of this kind can be further used to justify budget raises for employees and, in turn, improve the morale of employees. All employees like to know that their efforts are not in vain and the one way to show recognition, and one that is always appreciated, is a salary increase.

4. Reports indicating idle equipment are of great importance to management. The institutions should consider their investment in equipment in much the same light as industry does.



This investment should be made to produce the same as the employee. Another use of these equipment reports could be in budget justification. If the equipment is overloaded and additional equipment is needed, a much better case can be presented if detailed studies are available.

5. In any cost installation, some form of perpetual inventory is necessary. This one feature makes possible the preparation of operating statements without the delay and cost of monthly physical inventory, thus affording better control both from an operating and auditing point of view. Management also is able to have adequate supplies with a minimum amount of cash invested by studying the needs and setting minimum and maximum inventory levels.

6. There are always the comparisons that can be made between your own operation and that of other institutions. These comparisons could be used to a great advantage, provided we could all get together and report like items in a like manner.

The foregoing products are some of the very obvious; many other by-prod-

ucts will become evident as a cost installation progresses.

Cost accounting may be applied to three separate areas of the institution's operation: (1) cost accounting for instruction, cost in terms of the number of students taught; (2) cost accounting for the plants and grounds department, and (3) cost accounting for the operation of service departments and auxiliary activities. Those institutions involved in federal contracts are finding a fourth area in research, with the overhead feature of their contracts being determined by computation rather than negotiation.

Cost accounting for instruction is more than a departmental breakdown of the expenditure. It relates the expenditure of a given course, department or curriculum to the number of students served. This information makes available comparisons between departments on a per student cost basis and also gives a sound approach to the departmental budgets. Of course, this unit cost is not to be considered as the first and final rule for determining if a department is performing proficiently, but it is basic information. The situation may be such that it is a new department and the developing cost is higher, or it may be a department doing a considerable amount of laboratory work and the unit cost is higher than that for other departments. If this is the case, the ratio of unit cost should remain constant for comparison purposes.

The elements of direct cost considered in determining departmental cost are: (1) teaching salaries, (2) teaching supplies, and (3) departmental administration. These three elements are fairly easy to determine, but when overhead is applied to the department, the first assumption is encountered.

OVERHEAD INCLUDES MANY ITEMS

Overhead includes institutional administration, library expense, physical plant, and plants and grounds, if separate from institutional administration. The application of overhead is always an arbitrary decision for accounting purposes. The accountants make every effort to apply this overhead on a realistic basis, such as square or cubic footage, fixtures installed, direct expense ratio, and machine hours used. All of these bases are good and each has its own place in the distribution of overhead, but all

these methods are based on assumptions and must be considered in that light. The elements making up the overhead are further determined by assumption.

The depreciation of physical property can be estimated best, the wear and tear of library books must be considered, but to produce this rate of depreciation exactly is impossible. After the elements of overhead are fairly determined and spread to the departments, it is then necessary to determine unit cost from the composite expense. Again assumptions are necessary, since the effort is to determine the number of students or student credit hours taught in the department.

This makes the problem more difficult than the manufacturer's problem. He knows exactly the number of units produced during a given period, since an actual count of the finished goods can be made. But, can the institution determine the number of students enrolled in a particular class during a term? The best the institution can do is have a physical count of those enrolled at a specific date or average the number enrolled at more than one date. Therefore, the unit base is an arbitrary figure and must be considered as such.

ALLOCATE INSTRUCTORS' TIME

The direct expenses are not always as absolute as we might expect in a cost installation of this nature. The instructors' time may be divided among administration within the department, research, instruction and other duties, and an allocation of their time may not be such that it can be clocked the same as a factory employee's. It becomes necessary to allocate this time on a reasonable estimate of the time consumed in each activity.

From the foregoing reasoning it might be assumed that cost accounting for instructional purposes is so inaccurate that the amount of time, energy and money is wasted in any effort to determine unit cost of instruction. The contrary is true. Many of the bases of calculation are based on reasonable assumptions and as long as the assumptions remain constant, a trend can be produced that can be of benefit to the institution. There must be a gauge—there must be some method devised to inform management how much his product is costing and if all of the cost areas are remaining in line.

Another use can be derived from instructional cost when the time arrives to reduce budgets as to dollar amount and personnel. What can be a more unequal basis of budget reduction than cutting all departments across the board the same percentage? In reducing the budget, it is as important to have substantiating information as it is when increasing the budget.

The second area to which cost accounting may be applied is the plants and grounds department. This one department consumes a great portion of the budget each fiscal year, yet how many institutions receive any reports as to the amount of work performed? Have standards been set as to the amount of work performed? Have standards been set as to the amount of general services rendered and what the standard unit cost is? The nature of the work done within this department makes the cost application more nearly absolute than in the instructional area.

I should like to consider the services the University of Florida has in the plants and grounds department and point out how cost studies might be applied. The University of Florida has a janitorial department giving all the other departments janitorial services. A cost application here would compile how much was being spent for wages and direct supplies to perform the services and the indirect expense for supervision of the service. If this composite total were broken



down to produce some unit of production, management could judge fairly accurately if the service was up to standard.

The unit of production in this service could be the square footage of floor space swept, square footage waxed, and so forth. This cost, shown on a footage basis, affords an approach to this expense that can be compared to past performance and compared to cost in other institutions. A comparison of unit cost of floor space swept

could point up many obvious corrections that may be needed. It could easily indicate that another institution has a lower cost because larger brooms are used or that three employees can clean a hall more cheaply than one, three persons being able to go faster than three times one person.

An internal comparison might indicate recent cost increases and an investigation reveal that supervisors have had a change in assignment and the employees are not producing as well for the new supervisor. Such reports also can reveal if the faculty is using janitors for messenger service or for personal chores in the offices. Finally, the budget approach is much more comprehensive if this service is on a unit production basis.

Another division we have in our plants and grounds departments is maintenance. All of the work performed in the maintenance division is such that job order cost accounting is the desirable cost installation. The maintenance shop may be large enough to produce many different types of office, laboratory and classroom furnishings, but this does not necessarily mean the best utilization of the budget. There are cases where the production of such items manufactured within the institution actually has cost more than if the same items had been purchased from an outside agency.

SHOULD BE UNDERSTANDABLE

The college administrator should require his accounting staff to design systems and procedures that will control such things and, at the same time, make such procedures produce the reports in a manner that can be interpreted. An accountant's best defense is a confusing financial statement, and the administrator often will throw the statement in the bottom drawer with the parting remark, "No one but an accountant can understand it." The statement was made for the administrator; therefore, he should require the accountant to present it in an understandable form, or else fully explain the statement by written comment, or verbally.

Another function within the maintenance division is running repair. The University of Florida has electrical maintenance, plumbing and general repair departments. The cost here may be compiled by job order, or it may be called continuous job order, depending upon how the unit of work is established. In any event, the service

should be so presented that a unit cost may be designed. Personally, I like the individual job order, and later a compiled job order to give a total cost of maintenance necessary to each building. The individual job order will present the total cost for a specific job so that individuals may be compared as to performance. Once the job orders are compiled by buildings, a logical comparison can be undertaken to present how much more a building built in 1901 costs to maintain than one built more recently.

The University of Florida has central heating plant, grounds, sewage disposal, central stores, and general supervision, all under the plants and grounds division. The cost application is similar in these departments and the advantages are much the same. Such information as cost units for the grounds division will reveal whether the cost is excessive. Cost studies on record show the cost of trash collection was lowered by the truck's being driven down one side of the street, then the other, rather than being driven down one side and the refuse carried to the truck from both sides of the street. Always present is the fact that any extension of service can be fairly projected and such additional cost best justified by presenting cost studies.

A service department within our plants and grounds is the transportation department. Here efforts should be made to compile cost as related to each vehicle in order that a complete service record is available and the cost per mile can be computed for each vehicle's performance. A taxpayer may not understand why the institution needs a new truck or car, but if he is shown that the cost of running the old vehicle is so great that a new one is less expensive, the problem is much easier. One can further determine from the repairs and replacements necessary to the vehicle whether the drivers are caring for their vehicles and whether the shop personnel is producing; perhaps the institution is paying for mechanics when service attendants would suffice.

The third area is the auxiliary activities, and the University of Florida has several types of businesses. The cafeteria is basically a retailing problem, and the determination of food cost is similar to the determination of the cost of goods sold. However, before the food reaches the counter for sale, a considerable amount of process

cost has transpired. A unit cost for the servings should be determined in order that a fair selling value may be placed upon it.

Prices, quantity and quality are probably the things the student body watches most closely. This constant demand by the student body places the cafeteria in a precarious situation, and inefficiency will be spotted here first and the complaints will last the longest. Food prices fluctuate constantly; therefore, food costs must stay current and food inventory control must be absolute in order that the markup is adequate and a flow of the foodstuffs does not go home to employees' kitchens. Raw food costs of meats should be watched constantly. Once a quarter of beef leaves storage, all of the problems are not solved. This meat must pass through the butcher shop and on to the kitchen. A process problem arises in the butcher shop, since different cuts will be taken from the quarter and waste will occur.

EXAMINE COST REPORTS

The administrator should examine his cost reports to see first if the person in charge of the cafeteria is purchasing meats with a small amount of waste and if the butcher is getting full cuts from the quarter. A new cost of the meat has been added to it during the process, that being the butcher's salary and the overhead within the shop. This meat is further processed when it is prepared and more direct and indirect costs have been added. This direct cost may not be as easily determined in the kitchen and an arbitrary distribution of labor may have to be applied.

Another auxiliary to which job order cost may be applied is the duplicating or printing shop. Here the same standard procedure of compiling costs is used and the same advantages are derived from the installation.

The University of Florida requires all of its auxiliary and service departments to bid competitively with commercial concerns for services when policy will permit. This is particularly true in the duplicating department and

laundry—also for construction projects when we have the equipment to perform the project.

The fourth area in which cost is of direct benefit is in the federal reimbursable contracts. It is of direct benefit, since the government will only reimburse the university for the actual cost billed it, plus an overhead that is subject to audit before the expiration date of the contract. The direct cost does not present a difficult problem, since it is easy to determine how much time the research professor spent on the contract and the amount of materials he used for the project. The difficulty is in determining the overhead.

A.S.P.R., Section 15, Contract Cost Principle, Part III, Research Contracts With Nonprofit Institutions, states clearly what may be included in overhead, but there is one provision there that states, "any other acceptable method."

How many institutions are able to apply another basis for comparison? Another basis possibly could produce a larger overhead. For example, the plants and grounds expense is distributed to buildings on a footage basis or dollar value basis. This makes the cost of maintaining a building completed last year the same as that for one completed in 1901, if the footage basis is used. It further means it costs more to maintain a new building than an old one, if computed on a dollar basis, since less footage can be constructed today. This one item can change the overhead rate several percentage points, provided building maintenance is compiled by building, and this can be proved to be an acceptable method for overhead determination.

There are differences of opinion within government agencies in the interpretation of Section 15, one opinion being that an overhead pool for research is not allowable. Fortunately, we were able to get this opinion reversed. But if opinions do differ, we should take the initiative and be firm on what we believe the cost approach is. If the institution has a cost installation and a capable staff to maintain the installation, I do not believe the government would challenge such a stronghold.

There is a place for cost accounting in the institution and an installation can be revenue producing in a reverse sense, because it can save money if properly used.



THIS IS INTENDED AS A PROTEST against the increasing number of questionnaires that are flooding the country—at least our educational country. These are originating not only in governmental departments but in educational organizations and in individual institutions. And now we receive long lists of questions from individuals asking busy offices to supply a lot of details that are of no value to anyone except the one inquirer, and sometimes, probably, not much to him.

I believe firmly that cooperation is a higher and more effective form of social and industrial action than competition. Yet, even in cooperation, we should use a little common sense.

There are a number of indictments against the growing feeling that when a person has to make a decision he must first mail a questionnaire to everyone that he can think of who may have had a problem somewhat similar to his before he can trust his own judgment.

The most obvious indictment, of course, but perhaps the least important, comes from the recipients of the questionnaires, who are asked to interrupt the regular routine of their offices and put aside important matters to collect the mass of detail that most of these questionnaires ask for.

However, the more important objections to the increasing use of this form of imposition (which it is in some cases) are made from the standpoint of the questioner himself. In the first place, unless conditions that obtain in two different institutions are exactly the same (almost never the case), what one does should not determine the policy of the other.

When a lot of filled-in questionnaires are received by the originator, presumably either one of two courses is followed. Either the person who is attempting to decide something goes over each reply in detail in comparison with his own situation or someone tries to combine all the answers into some sort of average, or general policy. In the first method, the questioner goes over perhaps dozens of replies, all different, and all differing in their underlying factors from his own. Since he cannot know what the underlying factors were that brought into being results different from those of his own situation, it is hard to see how he can arrive at anything but confusion.

In the second method, after the answers are somehow combined in order to get a composite picture, the

IS THE EDUCATIONAL QUESTIONNAIRE OVERDONE?

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answer arrived at is not the considered policy of any responsible authority or the result of underlying compulsive conditions in any way similar to his own.

If a person says that he can select a few of the answers coming from places more nearly like his own, then he should select those in the first place and not burden a great many others to answer his questions.

I would go even further than to say that questionnaires often are of no real value. To my mind, they frequently do actual harm, and they do this in two ways: First, if Mr. Jones relies on the decisions of other people whose basic circumstances are different from his, he is obviously not arriving at a wise solution to his own problem, which should be based on his own peculiar circumstances. Second, it becomes an increasingly alluring method of avoiding thought to say when a problem arises, "Let's see what others have done," and then sidestep the whole matter until a mass of detailed answers have been received showing other people's policies under other conditions.

This not only avoids a certain amount of mental effort but also relieves Mr. Jones of some responsibility, in his own mind at least, because if his final decision doesn't happen to be the best, he can say to himself that he has only done what others have done.

Widespread questionnaires as an aid to important decisions are a prop that weakens rather than strengthens the mental muscles of the user. Can anyone imagine a really creative leader,

such as Rockefeller, Carnegie, Wanamaker or Ford, not being able to make up his mind about his own business until he had asked everybody else in the country what he was doing?

A minor point against questionnaires is that they so often contain requests for information that is obviously useless. A questionnaire recently was answered in my office in connection with groups of salaries. This asked for the high, low and median salary in each group. Perhaps the high salary and the low salary, or an average salary, or the number of persons receiving each of several salaries, might be of some use. However, I submit that a median salary could not possibly be a guide to any intelligent decision. I have seen a lot of questions whose answers I would gamble were never used by the perpetrator or, if they were, they led him astray rather than helped him. Such questions seem to be inserted on the theory of "Let's get all the information we can" whether it can be used to advantage or not.

No one would dispute the fact that sometimes conditions are present in which it is extremely helpful to have the advice of others who have met the same problem. But there are certainly better ways to obtain this than by mailing questionnaires wholesale and asking others to contribute an enormous amount of time (when it is all added together) in the hope that some answer may bring a useful idea. In the first place, one should be sure that the surrounding conditions are alike. That is basic, but it is almost completely lost sight of by most of the originators of questionnaires.

TOOLS FOR CONTROL OF FOOD COSTS

TEACHERS COLLEGE FOOD SERVICE						
Day of operation To date this month		DAILY FOOD COST REPORT		Date _____ Day _____		
	Teachers College	Horace Mann	Soda Fountain			
	Charges	Credits	Charges	Credits	Charges	Credits
Meats, poultry, fish, eggs, cheese						
Fats and oils						
Fruits, vegetables and juices						
Milk, cream, milk products and ice cream						
Bread and baked products—purchased						
All other food						
Total Issues						
Prepared food transfers						
TOTAL FOOD COST						
	Today	To Date	Today	To Date	Today	To Date
Income						
Food Cost						
Food Cost per cent						
Number served						
AVERAGE CHECK						
Breakfast						
Coffee hour						
Lunch						
Tea						
Dinner						

THE PUSHCART

DURING THE SUMMER SESSION AN OUTDOOR SERVICE IS provided from a cart set up in a court. The illustration below shows how the food is issued from the kitchen and the returns checked back. Cash receipts are reconciled with issues.

TEACHERS COLLEGE FOOD SERVICE						
PUSH CART - RUSSELL COURT						
Weather _____		Day _____		Date _____		
ITEM	ISSUED	RETURNED	SOLD	PRICE	TOTAL	
Sandwiches:						
1.						
2.						
3.						
Hard Cooked Eggs						
Fruits:						
1.						
2.						
3.						
4.						
Cookies						
Potato Chips						
Beverages: Milk						
Coke						
Juices						
Ice Cream: Dinners						
Novelties						
				TOTAL:		
Receipts _____						
Over or Under _____						
Number Served _____						

Final article in a series by

ALTA B. ATKINSON

Manager of Food Service
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DAILY FOOD COST REPORT

A SIMPLE FORM HAS BEEN SET UP TO OBTAIN NECESSARY information quickly. All catering functions are priced separately and at the end of the month adjustments are made that usually drop the food cost percentage from 3 to 4 per cent. This procedure is also followed with regard to the soda fountain. However, the manager of the soda fountain keeps a daily food cost on that unit of operation. Deductions are made each day of the amount of food processed in the main kitchen for use in catering or at the soda fountain. However, the income from these operation units appears only on the final monthly report.

TEACHERS COLLEGE FOOD SERVICE		
SODA FOUNTAIN		
DAILY COST REPORT		
Day of operation This month _____ This year _____		Date _____ Day _____ Weather _____
	TODAY	TO DATE
Ice Cream		
Syrups		
Milk and Cream		
All other Foods		
Bread		
Butter		
Other transfers		
Other direct issues		
Carbonated Gas		
TOTAL		
	TODAY	TO DATE
SALES	A. M. Food	
	A. M. Fountain	
	P. M. Food	
	P. M. Fountain	
FOOD COST		
FOOD COST %		
AVERAGE CHECK		

DAILY COST REPORT—SODA FOUNTAIN

THE MANAGER OF THE SODA FOUNTAIN SERVICE HAS "direct orders" and "transfer orders" which show each day on the Daily Cost Report. The transfers are for processed food prepared in the main kitchen. Ice cream, syrups, ice and carbonated gas are delivered and charged directly. Bread, butter, sandwich and salad materials and bakery goods are all charged through the main kitchen.

Accounting system is necessary tool for

DINING SERVICE CONTROL

IT IS NOW GENERALLY ACCEPTED that complete and current financial reports are necessary tools for dining service administration and control. They are considered necessary tools of management of the director of the dining service as well as the financial office that is responsible for over-all financial administration.

Approximately three years ago, the University of Rochester adopted a system that permits the preparation of weekly income and expense analyses which are issued each Friday morning and cover operations to the cost of business on Wednesday. Since the normal university accounting system does not permit the preparation of weekly reports and because of other special features that were desired and will be pointed out subsequently, the system of financial control used for the dietary operations is separate

from the general accounting system. However, at certain periods verification is made to assure accuracy.

In the development of the cost accounting and control system, it was felt that the dining room supervisors should have available current and detailed reports on all cost elements over which they have effective control as well as an up-to-date and realistic picture of the profit and loss situation as of a given moment. The latter requirement made it necessary that overhead cost be assigned to each period on an equitable basis.

The basis of the system of dietary financial control is the Weekly Dining Hall Report (Fig. 1), which is prepared by the dining room supervisors.

KURT M. HERTZFELD

Assistant to the Treasurer
University of Rochester
Rochester, N.Y.

This report is self-explanatory, and, augmented by the pay-roll sheets for the same period, gives all income obtained and cost incurred by each unit during the week, with the exception of the indirect cost. This report also can be used easily to develop statistical information on average values of various meals, attendance trends, and so forth.

The daily food cost is based on the pricing of the daily storeroom issues and thus within certain limits represents an accurate food cost for each day. Student hours worked are translated into cost by multiplying by the hourly student rate. (We cannot use pay-roll figures as student pay rolls are prepared monthly.) Employee meals

WEEKLY DINING HALL REPORT														
Unit _____														
DATE	INCOME					FOOD COST				MEALS SERVED				
	Break.	Lunch	Dinner	Parties	Total	\$	%	% to Date	Break.	Lunch	Dinner	Parties	Total	
Thurs.														
Fri.														
Sat.														
Sun.														
Mon.														
Tues.														
Wed.														
TOTAL														

Paper and Supplies for week: _____

Replacement: _____

Laundry: _____

Number of Employee Meals: _____

Student Hours Worked: _____

Fig. 1—The Weekly Dining Hall Report is the basis of the system of dietary financial control.

are translated into dollar cost by multiplying by a predetermined amount that might be changed from time to time but should represent the fair average food cost of employees' meals. We do not charge dining room employees for their meals and thus cannot handle their meals like regular income and expense.

The information submitted on the Weekly Dining Hall Report is transferred to the Weekly Expense Breakdown (Fig. 2). This report again is self-explanatory with the exception of the "distributed yearly charges," as with that one exception it only tabulates for the various dietaries the information contained in the Weekly Dining Hall Report. The yearly charges cover the following expenses: dietitians' salaries, vacation and holiday pay for employees, utilities, depreciation, administrative overhead, workmen's compensation, insurance, retirement and group life insurance.

The foregoing are expenses which, once budgeted, are not subject to direct control of the dining service supervisors. (The possible exceptions to this are utilities. Utilities in our case are estimated and charged as budgeted since we do not have separate meters.) It is unquestionably true, however, that if the overhead expenses were not included in the Weekly Expense Breakdown, this statement would not reflect the true expense picture for that week as well as of that particular time.

The method of computing the daily charges for yearly overhead is fairly simple, and it should be noted that this computation has to be made only once each year. All overhead charges

for the entire fiscal year are totaled and this total is divided by the number of full-service days during the fiscal year. The amount of overhead charges per full-service day is thus obtained. The weekly charge for overhead is based on the number of full-service days in that particular week. Christmas and Easter vacations, Thanksgiving week end, examination periods, and the period between semesters are not included in the computation of the number of full-service days, and thus no overhead charges are made in those periods. This has the advantage that in periods when income is considerably below normal, expenses are also reduced and thus losses are kept to

a minimum. Previously we always had to deduct from any profits that might have been accumulated prior to the holidays or examinations the probable losses resulting from reduced operations in order to arrive at a realistic appraisal of the situation as of a given time.

Another step toward rendering the profit and loss picture at any time realistic in terms of the fiscal outcome was the inclusion of holiday and vacation pay in the yearly overhead charges. This is based on the realization that during the active periods of operation, vacation liabilities are incurred, and that during holidays personnel has to be carried on the pay rolls without income from operation. By including vacation and holiday pay in the overhead charges, we distribute this expense over all active periods of the year. The addition of the prorated share of distributed weekly charges to the direct cost of the week results in an up-to-date cost picture for each week as well as for the entire fiscal year.

The Weekly Report of Dining Halls (Fig. 3) is basically a profit and loss statement for a particular week and the fiscal year up to date. In addition, control ratios are shown for direct expenses as well as meal counts. This report and the Weekly Expense Breakdown are sent to all dining room supervisors and financial officers of the university. Experience has proved it a valuable tool of management.

WEEKLY EXPENSE BREAKDOWN

Week ending _____

	TODD	TODD GRILL	CUTLER	EASTMAN	COOP
Wages - Regular					
Students					
Meals					
TOTAL					
Food					
Paper and Supplies					
Laundry					
Replacement					
SUB-TOTAL					
Distributed Yearly Charges					
TOTAL					

Fig. 2 — The Weekly Expense Breakdown, onto which information from Weekly Dining Hall Report is transferred.

WEEKLY REPORT OF DINING HALLS

Week ending _____

	TODD	TODD GRILL	CUTLER	EASTMAN	COOP
INCOME					
Week					
Accum.					
EXPENSE					
Week					
Accum.					
ACCUM DIFFERENCE					
%FOOD COST					
Week					
Accum.					
%LABOR COST					
Week					
Accum.					
%MISC COST					
Week					
Accum.					
MEALS SERVED					
Breakfast					
Lunch					
Dinner					
Parties					

Fig. 3 — Weekly Report of Dining Halls is basically a profit and loss statement for a particular week and for the fiscal year up to date.

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NEWS

116 Schools Enroll Half of Nation's College Students . . . Deferred

Fathers and College Students Face Draft . . . Business Officers Workshop

Feb. 16-18 . . . Subversive Investigation Gets Colleges' Cooperation

Half of Nation's College Students Are In 6% of Institutions

WASHINGTON, D.C.—According to a recent study completed by Henry G. Badger, specialist in educational statistics of the U.S. Office of Education, the development of the large university is one of the major phenomena in American higher education during the last half century.

Thirty-two institutions in the nation had more than 10,000 students enrolled in the fall of 1951; at that time 218 schools had fewer than 100 students each.

The report revealed that half of the entire enrollment was concentrated in 116 schools, which represented only 6.26 per cent of the total number of institutions studied. The other half of the enrollment was distributed among 1739 institutions, which represented 93.74 per cent of the institutions studied.

Institutions under state or city governments were found to be larger than those under the control of religious, philanthropic or other nongovernment agencies. In comparison with earlier years, the study revealed that in the fall of 1949, when the G.I. program following World War II was at its height, enrollments of college students reached their peak period. At that time there were nine institutions whose enrollments were more than 20,000; in 1951, there were only four such schools.

Negroes Gain in Texas

FORT WORTH, TEX.—Eleven institutions of higher education in Texas have opened their doors to Negroes, accepting them in either one or all departments, according to a report in the *Fort Worth Star Telegram*. Three other schools without Negroes at pres-

ent indicate that they readily would admit qualified Negro applicants.

Would Seek Draftees Among Deferred Fathers and College Students

WASHINGTON, D.C. — In a recent speech delivered before the American Legion security commission, Maj. Gen. Lewis B. Hershey, director of Selective Service, stated that there might be more emphasis soon upon the drafting of young men as they finished school. There was a growing awareness that the draft would get young men early or late and that they had best get in their 24 months of duty early, he declared.

General Hershey reported that there were proposals in existence to tighten the procedures on selection of men of draft age and that some of these proposals were likely to go into effect this year. He declared that he was opposed to proposals to extend the requirements for service from 24 months to 36 months, stating that "until we have taken every man who has not yet served, it would not be a good thing to extend the period of service for those who are called."

General Hershey stated that the Selective Service pool was large enough to provide men needed for the rest of the fiscal year, through June 30; men would be called at the rate of about 50,000 a month. He indicated that the country must soon decide whether fatherhood is a substitute for military service. Some 1,400,000 fathers have been deferred. General Hershey believes that the time has come when fathers, otherwise eligible, should be drafted.

"The first approach to getting more manpower, in my opinion, is to get the guy who was deferred for an education and then became a father," General Hershey declared.

Training Workshop for Business Officers in New York Feb. 16-18

NEW YORK. — The second business officers training workshop to be sponsored by the Eastern Association of College and University Business Officers will take place February 16-18, at the Hotel New Yorker, according to an announcement by H. R. Patton, controller of Carnegie Institute of Technology and chairman of the workshop committee.

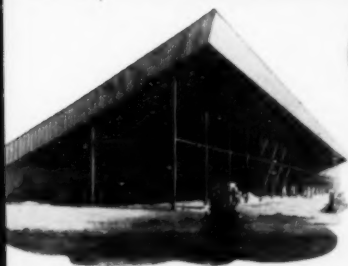
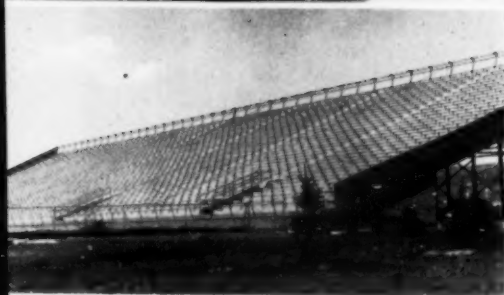
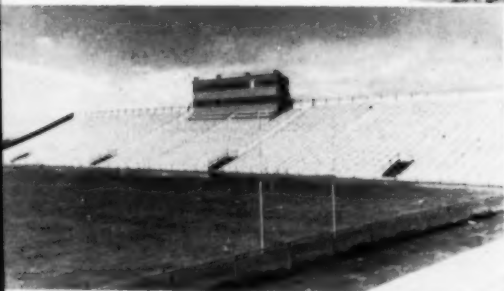
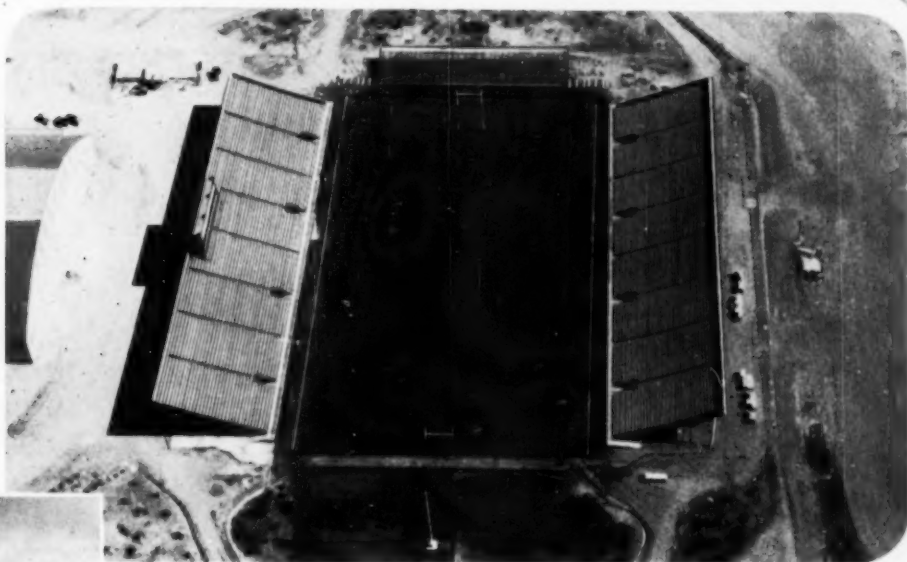
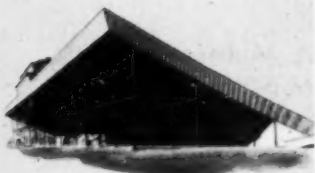
During the three-day meeting, class sessions will be devoted to a study of accounting and budgeting, overhead cost determination, dormitory and dining hall operation, fee collections, scholarships and loans, personnel, indoctrination and in-service training, and plant maintenance and operation. Each day will be divided into three sessions of three hours each beginning at 9:30 in the morning and concluding at 10 o'clock in the evening.

Those who will be serving as group leaders of the accounting and budgeting section include: Edward K. Cratsley, vice president of Swarthmore College; Harold E. Manley, assistant controller of the University of Pennsylvania; W. Emerson Gentzler, assistant provost, Columbia University, and Donald S. Willard, controller of Mount Holyoke College. In the section on overhead cost determination will be: William H. Lane Jr., controller of Columbia University; G. A. Mills, controller of Princeton University; George E. Van Dyke, assistant controller of George Washington University, and George E. Gere, assistant controller-finance of Carnegie Institute of Technology.

The residence hall and dining hall operation section will be under the direction of Kurt M. Hertzfeld, assistant to the treasurer, University of Rochester, and Elene C. Buhrson, man-

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NEWS

ager of food service, Carnegie Institute of Technology. The section on fee collections, scholarships and loans will be under the direction of Ross Ellis, treasurer and business manager of Westminster College, and Tredwell H. Hopkins, assistant bursar, New York University.

Sessions on personnel, indoctrination and in-service training will be led by John W. Teele, director of personnel at Harvard University, and Diedrich K. Willers, personnel direc-

tor, Cornell University. The plant maintenance and operation section will be handled under the direction of W. P. Wetzel, superintendent of buildings and grounds at Temple University, and Lewis S. Beach, manager, division maintenance and construction at Yale University.

Asks New York Counties to Run Community Colleges

ALBANY, N.Y.—Gov. Thomas E. Dewey in a recent message to the state

legislature recommended that it require local counties to take over as community colleges the institutes of applied arts and sciences established on a temporary basis by the state in 1946. These institutes are located in Buffalo, Binghamton, Brooklyn, Utica and White Plains. Without some special provision for financial support, the institutes would close August 31.

The governor stated that the counties could take over the institutions without cost, sharing future capital charges equally with the state. Under the community college formula, the state and the community share capital costs and each pays one-third of the operating cost, the remaining third coming out of tuition charges. The governor said that the continuation of the institutes on a wholly state supported basis "would in the long run endanger our whole educational program."

C.U.P.A. Midwest Region Holds Mid-Winter Conference in Chicago

CHICAGO. — The annual mid-winter conference of the midwest region of the College and University Personnel Association was held early this month to discuss personnel problems of colleges and universities in the mid-western states.

The opening speaker of the conference was Professor Raleigh Stone of the University of Chicago, who spoke on "So—What's Next?" in which he commented on the possible effect of the new administration in Washington as it might affect business in general and upon salaries and wages in particular.

"Procedures of Job Analysis and Installation of Work Classification Systems" was discussed by Kathryn Hansen, executive secretary of the Statewide University Civil Service System of Illinois. Emphasis was made on the importance of job analysis and work classifications systems as they might apply to both small and large educational institutions.

A section under the general title of "Communication" was directed by Charles W. Hoff, vice president of the University of Omaha. Assisting him in that phase of the program were Don Williams of the University of Wisconsin and Robert Mossholder, director of public relations at Indi-



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NEWS.

ana University. The noon luncheon of the conference featured a speech by Stanley P. Farwell, managing director of the Business Research Corporation of Chicago, on the subject "Human Relations in Personnel Administration."

Afternoon sessions of the conference were devoted to a study of retirement systems and a pro and con discussion by T. N. McClure, business manager of Knox College, and Hedwin C. Anderson of the University of Minnesota on "A Business Manager Looks at the Personnel Department" and "A Personnel Director Looks Back."

Colleges to Cooperate in Subversive Inquiry

LOS ANGELES.—The Association of American Colleges, meeting for its annual conference in this city, adopted a resolution stating that American colleges and universities would cooperate with "any responsible group" appointed by President Eisenhower to investigate charges of subversion in the nation's colleges and universities.

The association adopted a resolution calling for certain changes in Public Law 550 relating to educational benefits for Korean war veterans. The resolution supports a proposed amendment that would break down the present \$110 a month lump payments for tuition and subsistence into separate payments of \$80 for subsistence and \$40 for tuition, allowing a \$10 increase in the over-all benefit.

1976 Foreign Students Enrolled at Columbia

NEW YORK.—With an enrollment of 1976 students from outside the United States, Columbia University has for the second year reached an all-time high among American universities in foreign student enrollment.

Exceeding the 1951-52 record figure of 1595 by nearly 400, the increased enrollment represents, according to university officers, a significant strengthening of Columbia's international ties. Dr. Grayson Kirk, president of Columbia, terms foreign student attendance at Columbia and other American universities a significant factor in developing the cultural relations between the United States and other countries, providing a "cultural



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NEWS.....

underpinning" for our international political and economic policies.

Of the 1976 students from abroad, 1847 are citizens of other nations. The remainder are either displaced persons, residents of Hawaii, Puerto Rico and the Virgin Islands, or students who have taken out their first naturalization papers. The largest number of students, 705, come from Europe, with Asian students, numbering 697, running a close second. By continents, the remainder come from North America, 338; South America, 144; Africa, 54, and Australia, 18. The British commonwealth has sent 565 students to Columbia, while 406 students have as their homeland countries now behind the Iron Curtain. Students from the Near and Middle East number 239.

The largest number of foreign students at Columbia are the Chinese; 204 students, most of whom cannot return to their homeland, are enrolled at the university. Canada comes next with 167, followed by India (including Pakistan), 99; Israel, 93; Great Britain, 86; Philippine Islands, 75; Japan, 62; France, 60; Greece, 58; British West Indies, 51, and Germany, 50.

Connecticut Bill Would Outlaw Discrimination

HARTFORD, CONN. — Senator Jack Stock of Bridgeport recently introduced a bill in the Connecticut state senate outlawing discrimination because of race, color or creed in admissions to Connecticut's colleges and universities.

The proposed legislation stipulates that all nondenominational tax exempt schools and colleges in the state shall not inquire on their application blanks as to the race, religion, color or national origin of any applicant. The Connecticut Civil Rights Commission was authorized under terms of the bill to investigate complaints.

A similar bill introduced in the 1947 and 1949 sessions of the general assembly was defeated.

Record Sum Raised for United Negro College Fund

NEW YORK.—C. D. Jackson, chairman of the United Negro College Fund, reports that the 1952 appeal brought in \$1,366,310; this represents an increase of \$58,000 over 1951. Mr.

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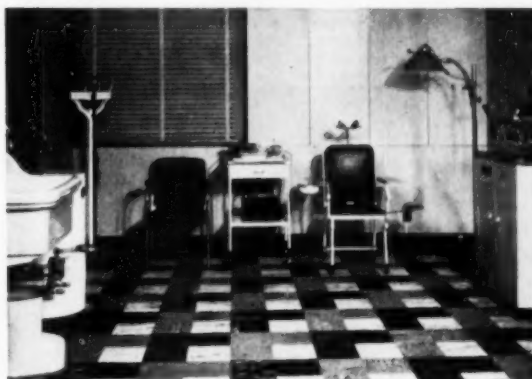
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NEWS.

Jackson, publisher of *Fortune* magazine, declares that the sum was the largest raised in any year since the fund was organized in 1944. The money will be distributed among 31 private accredited colleges and universities participating in the program. The colleges will use the money raised in 1952 for current operating expenses.

Considers Subversive Probe a Compliment

SCHENECTADY, N.Y. — Dr. Carter Davidson, president of Union College here, said recently that the institution is "indirectly complimented" by the concern over possible subversive influences in American colleges that have been expressed recently by Harold Velde of Illinois and Joseph McCarthy of Wisconsin.

When advised that an investigator for the House committee on un-American activities was checking educational institutions in the East, Dr. Davidson, who heads the Association of New York State Colleges and Universities, remarked that "Union has no fears of any investigation. We are confident that our faculty is free from any subversive affiliations."

NAMES IN THE NEWS



William C. Gaige

William C. Gaige was recently appointed president of Rhode Island College of Education in Providence, R. I. Mr. Gaige was formerly superintendent of schools in Claremont, Calif.

Charles H. Sparenberg, auditor of the University of Texas System, has been named to the new post of controller as the result of recent action by University of Texas regents. The regents



C. H. Sparenberg



Jack G. Taylor

abolished the office of vice chancellor for business and finance and split the duties between Mr. Sparenberg and Jack G. Taylor, former business mana-

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NEWS

ger of the main university at Austin, and investment officer for the entire university system, who was promoted to the position of endowment officer. **C. D. Simmons**, former vice chancellor for business and finance, resigned January 31 to become vice president and senior trust officer of the First National Bank of Houston, Tex.

George H. Hand, executive assistant to the president at Southern Illinois University, Carbondale, has been named vice president and controller. **Dr. Charles**

D. Tenney, professor of English, has been named vice president and provost.

Paul H. Giddens, head of the department of history and political science at Allegheny College, Meadville, Pa., will assume the presidency of Hamline University in St. Paul on March 1. He succeeds **Walter C. Coffey**, who has been acting president since **H. R. Anderson** resigned to accept the presidency of American University, Washington, D.C.

Rev. Perry Epler Gresham, administrator of the Central Woodward Chris-

tian Church, has been named to the presidency of Bethany College in West Virginia. According to an announcement by the board of trustees of the college, no date has been determined for the new president to assume his duties.

Arthur Sammoore, business manager of Illinois College, Jacksonville, Ill., has been named supervising accountant by the Teachers College Board of Illinois.



Arthur Sammoore

In the new position, Mr. Sammoore will exercise general supervision and advice over the accounts in all four of the teachers colleges in the state. He also will cooperate with the accounting personnel at the University of Illinois and Southern Illinois University to obtain greater uniformity in the accounts, budgets and reports in all of these institutions.

Robert E. Burke, former purchasing agent at Creighton University, Omaha, Neb., resumes his position at the university after serving nearly 12 months in Korea on active duty as a major in the army.

Dr. James Bryant Conant, president of Harvard University since 1933, has been named United States High Commissioner for Germany. His appointment becomes effective immediately. Dr. Conant has been elected president emeritus of Harvard University as of next September 1. He will be on leave of absence from the university until then. The functions of the president's office at Harvard University will be carried on by a special administrative committee for the remainder of the academic year, or until a successor is named by the university.

Edward L. Morrison, administrative assistant to the president at Oklahoma A & M College, has been named to the post of director of auxiliary enterprises. The newly created position is the first organized administrative post of its kind at Oklahoma A & M, according to an announcement by **Dr. Oliver S. Willham**, president of the college.

Rev. William E. Kerstetter, head of the department of philosophy and religion at Hamline University, St. Paul, has been elected president of Simpson College, Indianola, Iowa. He will succeed the **Rev. Edgar E. Voight**, who

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FLOOR CLEANER
is safe for
TERRAZZO AND
ALL OTHER FLOORS

A recent study * illustrates the damage caused to terrazzo flooring by certain crystalline chemicals that are common ingredients of many powdered soaps and detergents. This damage is attributed to the large expansion forces of crystal formations in the pores of the floor, which result from the repeated use of such detergents. For this reason, we recommend the use of **BRITEN-ALL**, a powerful but neutral cleaner with non-crystalline characteristics.

BRITEN-ALL will not injure the finest floors or floor finishes . . . yet, it cleans the dirtiest of floors quickly and efficiently. **BRITEN-ALL** is economical too, because it's a concentrate. Just a few ounces of **BRITEN-ALL** to a gallon of water provides an effective cleaning solution.

BRITEN-ALL is approved and recommended by leading manufacturers of asphalt tile, terrazzo, rubber, linoleum and composition floors.

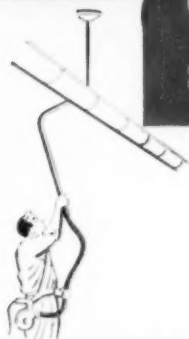
*"Terrazzo as Affected by Cleaning Materials" by D. W. Kessler (National Bureau of Standards). Originally published in *Journal of the American Concrete Institute* September, 1948.

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**Quality + Cleanability
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Making Light Work of It with Wakefield Maintenance Equipment

By using this blower-type Wakefield maintenance equipment, the janitor can keep Stars clean by spending five minutes a day once every three weeks in each room. For yearly washing of reflectors, lamps and channels, the janitor removes the reflectors (they slide in and out like a drawer) and uses an ordinary detergent.

Note: the Wakefield maintenance equipment shown is available free to purchasers of Stars in specified quantities. We will gladly give you details.

There are good reasons why the Star is recognized as a superior classroom luminaire and why it is so often recommended for "Co-ordinated Classrooms" (as well as offices, drafting rooms and other areas where critical seeing tasks are performed).

QUALITY OF LIGHT. Luminous Plaskon reflector sends most of the light to the ceiling, to be distributed evenly all over the room. Result: a minimum of reflected glare. The reflector, which completely hides the lamps, has about the same brightness as the ceiling. Result: a minimum of direct glare.

CLEANABILITY. The Star is one of the most easily and completely cleanable of luminaires. See column at left.

RECENT TESTS of actual installations, using the interreflection method, indicate fewer Stars are required to light a room at a given level than had previously been thought necessary. We will be glad to send you the new coefficient of utilization tables.

The Star is equipped for pre-heat and rapid-start bipin and slimline lamps. See American School & University. Or write to The F. W. Wakefield Brass Company, Vermilion, Ohio.

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Room size: 23' x 36'
2 rows of four 4' units
2-75 W standard warm white
fluorescent lamps per unit.
Footcandles: 32 average.

Wakefield Over-ALL Lighting



THE GRENADE



THE PACEMAKER



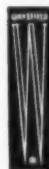
THE COMMODORE



THE STAR



THE WAKEFIELD CEILING



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Business organizations buy duplicators to make copies—to save time and to save money. But suppose inept operation takes extra work-hours that increase cost. Suppose supplies are wasted. And suppose the copies are second-rate. These things can happen—needlessly.

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The worthwhile savings that are possible with a modern duplicator hinge on people and time. In short, the savings depend on proper instruction. As with any equipment, maximum savings come when the machine is used up to its maximum efficiency.

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To be of real value the salesman must be able and willing to instruct your people in the new techniques of MODERN duplicating... and keep right on with that instruction as new developments come along.

That kind of instruction "comes with the machine" when you buy an A. B. Dick mimeograph or spirit duplicator. It is the day-in and day-out work of the A. B. Dick Company distributor salesman. He has practical knowledge of what the equipment can do and how the work is done. It is the practical knowledge that comes from first-hand experience with actual applications.

And so here is a suggestion. If you are not enjoying the worthwhile savings possible with MODERN duplicating, call your A. B. Dick distributor. You'll find him listed under Duplicating Machines in the classified section of your phone book. A. B. Dick mimeograph products are for use with all makes of suitable stencil duplicating products.



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A. B. DICK COMPANY, 5700 TOLSON AVENUE, CHICAGO 31, ILLINOIS



NEWS.

has been president of Simpson College since 1942.



John W. Pence

Dr. John W. Pence has been named president of Fairmont State College, Fairmont, W.Va. He succeeds **Dr. George A. Hand**, who resigned to accept a position at Southern Illinois University.

Rev. Clyde W. Meredith, former president of Taylor University and the first chief of the schools branch of the federal Civil Defense Administration, has been named vice president in charge of development at American University, Washington, D.C.

Dr. Clarence P. McClelland, retired president of MacMurray College, Jacksonville, Ill., has been named director of a long-range \$8,000,000 development campaign for Wesleyan University, Middletown, Conn. The appointment was announced by **Dr. Victor L. Butterfield**, president of Wesleyan University.

Glenn R. Snyder, former general secretary of the Y.M.C.A. in Long Beach, Calif., has been named assistant to the president of the University of Redlands.

Dr. Emory Lindquist, president of Bethany College, Lindsborg, Kan., has announced his resignation to become effective August 1. A former Rhodes scholar, Dr. Lindquist has been associated with Bethany College for 20 years.

A. G. Haussler, vice president and secretary of the board of trustees of Bradley University, Peoria, Ill., has been assigned the duties of the president's office until a successor to **David Blair Owen**, who resigned from the presidency because of ill health, can be chosen. The administration of academic affairs has been assigned to **Dr. Chester E. Sipple**, dean of the university.

Dr. Judson W. Foust has been named vice president and executive officer of Central Michigan College, Mount Pleasant, Mich., according to an announcement by **Charles L. Anspach**, president.

John R. Cunningham, president of Davidson College, Davidson, N.C., was elected president of the Association of American Colleges at its 39th annual meeting in Los Angeles in January. **R. H. Fitzgerald**, chancellor of the university of Pittsburgh, was named vice president and the **Rev. Joseph R. N.**



RCA "400" Projector the thread-easy way to show sound films

Thread-Easy film path makes threading a simple, understandable operation. You can thread it, and put a picture on the screen in seconds. (In tests at a trade show, 473 guests proved you can thread the RCA "400" in less than 30 seconds.)

Gentlest way to handle films

IN YEARS TO COME, you'll appreciate the careful way your RCA "400" projector handles film.

Slow-running sprockets—twice the size of ordinary sprockets—provide a long, gradual curve for film to follow. The thread-easy film path does away with sharp bends which tear or scuff film. It's designed to give you hundreds of first-run showings from every film.

(In actual tests a film—run through the RCA "400" projector 700 times—shows no sign of wear. Splices fail to show any sign of parting after hundreds of passes through the projector.)

For careful film handling, tell your RCA Dealer you want the RCA "400" 16mm sound projector.

Check these 6 important advantages of the RCA "400" Projector

1. Thread-Easy film path for 30-second threading
2. Low-speed induction motor for quiet operation
3. Floating sprockets for gentle film handling
4. Husky motor, nylon gears for long-term dependability
5. Simplified design for 2-minute set-up, 3 minute pack-up
6. RCA-engineered sound system for superb reproduction

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NEWS.

Maxwell, S.J., president of Boston College, treasurer.



John S. Everton

John Scott Everton, president of Kalamazoo College, Kalamazoo, Mich., has been granted one year's leave of absence, beginning February 1, to accept appointment as a representative of the Ford Foundation in Burma. Mr. Ever-

ton had served in South Asia during 1944-45 as the senior representative of the American Friends Service Committee in India.

Michael Radock, director of public relations at Kent State University, Kent, Ohio, has resigned to accept appointment to the public relations department of the Ford Motor Company. He began his new duties on January 16 and will be assigned to the educational services division, working with schools and colleges.

Rev. Paul E. Valentiner, formerly publicity director of the Christian Higher Education Year Appeal of the United Lutheran Church in America, has been named general secretary of Wagner College, Staten Island, N.Y. His appointment becomes effective February 15, when he will become responsible for the development of community and church relations with special emphasis on long-range financial objectives and student recruitment.

Lawrence W. Lykens has been named assistant to the president of Lycoming College, Williamsport, Pa. His main duties will be those of alumni secretary and director of student promotion. He is a member of the board of missions and church extension of the Central Pennsylvania Conference of the Methodist Church.

Dr. John S. Badeau, president of the American University at Cairo, Egypt, has submitted his resignation to become effective at the close of the current academic year, according to a recent announcement by the executive offices of the university's board of trustees in Philadelphia. **Dr. W. Wendell Cleland**, a trustee, has accepted the board's invitation to be acting president for the academic year 1953-54, until a successor to Dr. Badeau is named.

Dr. Frank L. McVey, president of the University of Kentucky from 1917 to 1940, died recently at the age of 83. Prior to his service at the University of Kentucky, he had been president of the University of North Dakota.

Dr. Frederick Roehm, retired dean of Baldwin-Wallace College at Berea, Ohio, died recently at the age of 74. He had graduated from Baldwin-Wallace in 1902, joined the staff of the college in 1920, and remained an active member of the staff until 1946.

Rev. Wilbur Nesbitt Mason, president of Baker University in Baldwin, Kan., from 1907 to 1917, died recently at the age of 85 years.

Rev. David Laing MacFarlane, president of Teachers College at Emporia, Kan., died in January at the age of 59 years. He had been president of the college since 1945.

Dr. Leroy C. Rincker, president of Concordia College, Milwaukee, since 1936, died January 28 of a heart ailment. Fifty-six years old, Dr. Rincker had been a member of the Concordia faculty since 1923.

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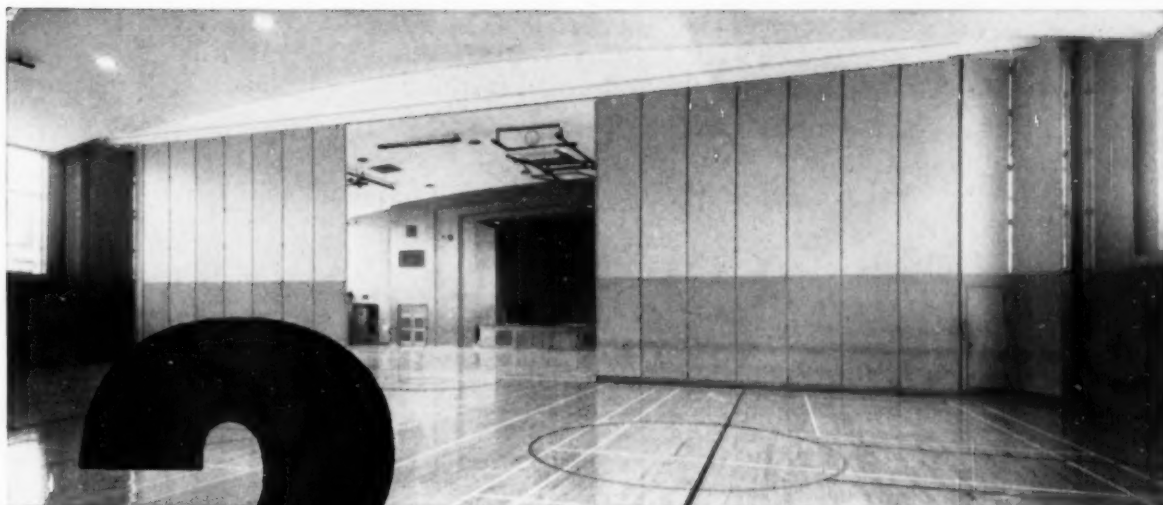
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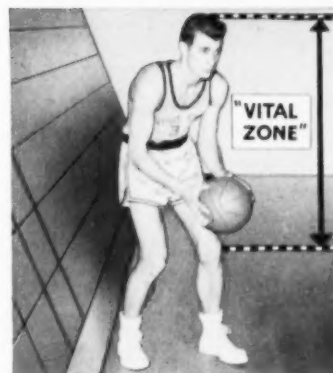
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THE BRUNSWICK-BALKE-COLLENDER COMPANY

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DIRECTORY OF ASSOCIATIONS

National Federation of College and University Business Officer Associations

President: Jamie R. Anthony, Georgia Institute of Technology; vice president: C. C. De Long, University of Illinois; secretary-treasurer: Irwin K. French, Wellesley College.

Association of College Unions

President: Charles D. Owens, University of Washington; secretary-treasurer: Edgar

A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.

Conference: April 16-19, Claremont Hotel, Berkeley, Calif.

National Association of Educational Buyers

President: Kermit A. Jacobson, California Institute of Technology; executive secretary: Bert C. Ahrens, 1461 Franklin Ave., Garden City, N.Y.

Convention: May 6-8, Edgewater Beach Hotel, Chicago.

Association of College and University Business Officers

American Association

President: J. R. E. Lee Jr., Florida A. & M. College; secretary: L. H. Foster Jr., Tuskegee Institute.

Convention: May 3-5, Fort Valley State College, Fort Valley, Ga.

Central Association

President: Bruce Pollock, Carleton College; secretary-treasurer: C. C. De Long, University of Illinois.

Convention: May 3-5, Minneapolis.

Eastern Association

President: F. Morris Cochran, Brown University; secretary-treasurer: Irwin K. French, Wellesley College.

Convention: Nov. 29-Dec. 1, Washington, D.C.

Southern Association

President: Frank D. Peterson, University of Kentucky; secretary-treasurer: Gerald D. Henderson, Vanderbilt University.

Convention: April 9-11, University of Florida, Gainesville.

Western Association

President: Robert W. Fenix, Willamette University; secretary-treasurer: William Miliken, St. Mary's College of California.

Convention: May 10-12, Empress Hotel, Victoria, B.C., Can.

American College Public Relations Association

President: Edward P. Vonderhaar, Xavier University, Cincinnati.

Convention: 1953, Salt Lake City.

Association of Physical Plant Administrators of Universities and Colleges

President: Edward Pardon, University of Michigan; secretary-treasurer: A. F. Gallistel, University of Wisconsin.

Convention: May 11-13, Alabama Polytechnic Institute, Auburn, Ala.

National Association of College Stores

President: H. R. Ritchie, University of North Carolina Book Exchange, Chapel Hill; executive secretary: Russell Reynolds, Box 58, 33 West College Street, Oberlin, Ohio.

Convention: April 19-22, Statler Hotel, New York City.

College and University Personnel Association

President: Hedwin Anderson, University of Minnesota; secretary-treasurer: Clara Stimson, University of Rochester; executive secretary: Donald E. Dickason, University of Illinois. Permanent headquarters, 809 S. Wright St., Champaign, Ill.

Convention: July 19-22, Michigan State College, East Lansing.

National Association of College and University Housing Officers

President: Kenneth D. Lawson, Michigan State College; vice president: M. R. Shaw, Cornell University; secretary-treasurer: Ruth N. Donnelly, University of California, Berkeley.

Convention: August 3-5, University of Minnesota.

New TURN-TOWL DISPENSER

... CUTS
WASHROOM
COSTS!



UNMATCHED PERFORMANCE

There's nothing on the market to match this new model MOSINEE Turn-Towl Cabinet for efficient, trouble-free dispensing. And there isn't another control-type cabinet on the market dispensing towels that match MOSINEE Turn-Towls for hand-drying qualities. In many schools, MOSINEE Turn-Towl service is reducing towel consumption close to 50%.

**Over 500 Turn-Towl Cabinets have been tested for nearly a year without a breakdown.*

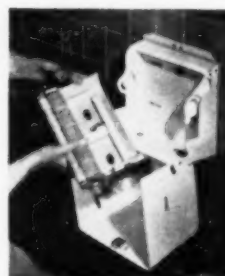
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Removable mechanism means

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Exclusive TURN-TOWL feature means cabinet never has to be taken down in case replacement of mechanism is required. New mechanism can be inserted in a minute!



From **BROTHER BEAR** to purple panes...



Pioneer schools had paper windows smeared with "bear grease" to make them tough. Glass windows came along later... bubbly and purplish. They couldn't be opened and they gave but little light. Learning took a licking... waiting for better windows!

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Ludman Engineering and Planning Service is available to Architects and School Boards for any type of school, large or small.



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Plant Superintendent—Now employed in this capacity; small midwest college; desires location Arizona or California; experienced in building maintenance, engineering, construction, purchasing and supervision; member Physical Plant Administrators. Write Box CW 133, COLLEGE AND UNIVERSITY BUSINESS.

Purchasing Agent, Assistant Purchasing Agent or Business Manager Available im-

mediately; would like position in small middle-west or eastern college; past experience includes 5½ years in purchasing department of which 3½ years was spent as purchasing agent for large state university; age 31, married and have three children. Write Box CW 132, COLLEGE AND UNIVERSITY BUSINESS.

Superintendent of Buildings and Grounds—Master mechanic; seven years administrative experience in university maintenance in present position; previous position of nine years as property repair and maintenance manager; long experience in all kinds of remodeling, construction, purchasing, planning, and organizing; excellent references. Write Box CW 139, COLLEGE AND UNIVERSITY BUSINESS.

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Bookstore Manager—Position available July 1, 1953, with privately endowed eastern university; responsibility for complete operation of university store with present volume of \$175,000; in reply give personal data, resume of training and experience, salary expected. Write Box CO 106, COLLEGE AND UNIVERSITY BUSINESS.

Executive Housekeeper—For college dormitories; Degree; training and experience in institution management; send complete resume of experience, personal data, salary expected, etc. Write Box CO 107, COLLEGE AND UNIVERSITY BUSINESS.

Plant Superintendent—New York metropolitan college; Mechanical Engineering Degree required; experience in building construction and maintenance; send complete resume of training and professional experience, personal data, and salary expected. Write Box CO 96, COLLEGE AND UNIVERSITY BUSINESS.

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A long-needed volume dealing with the business and management side of university affairs, as well as the necessary relation of financial to educational policies. Here a successful administrator discusses a variety of typical problems in this area—such matters as the role of trustees, faculty personnel policies and perpetuity investments, the investment portfolio, the economical use of plant resources, methods of budgetary operation and control. The practical experience reflected in this book is applicable to the management of universities both large and small, public and private.

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Tuition Provides Not Half of Union Education Cost

SCHENECTADY, N.Y.—More of the cost of educating a student at Union College is borne by gifts and endowments than by student tuition, according to Frank Bailey, college treasurer, in his latest report to the trustees and alumni.

For every \$600 paid by students in the year 1951-52, Union College matched \$680 from gifts and endowment income. Without such extra income, the cost of tuition to educate a single student in the manner that Union College is presently operating would be \$1280.

The total assets of the college, as reported in "The State of Union," reached a new high of \$15,512,490, an increase of \$861,873 over the previous year. Of this amount, more than \$9,000,000 was in securities and bonds, and \$5,000,000 in college buildings, furnishings, laboratory equipment and library books.

Almost one-third of the students attending Union College last year received financial assistance in outright scholarships, grants-in-aid, and loan funds.

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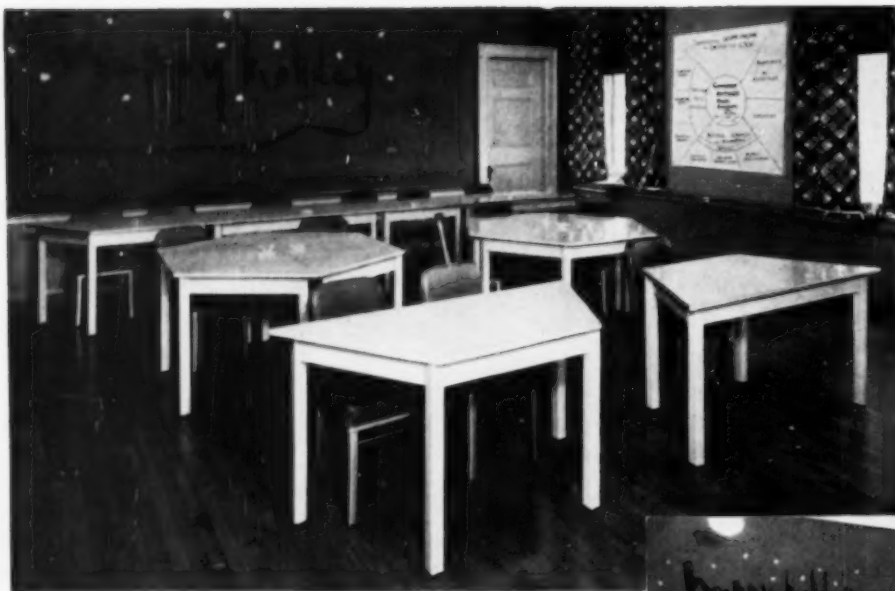


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The National Multi-mode table has a NATCO-LITE laminated plastic top in wood-grain patterns specially developed for low light reflectance. It is made in four standard heights: 20, 23, 26 and 29-inch.



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WHAT'S NEW

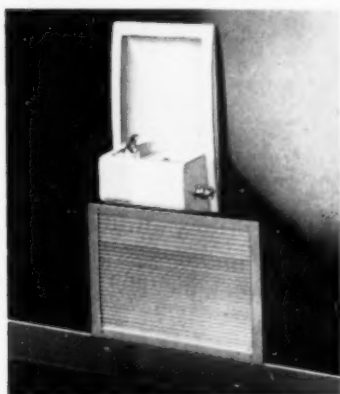
February 1953

Edited by Bessie Cover

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 92. Circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Water Cooling Unit

Complete in-the-wall mounting is offered with the new type Crane self-contained water cooling unit. A combination of the Filtrine Wal-Pak with any Crane wall drinking fountain, the unit is designed to save floor space and en-



hance the appearance of modern interiors. There is no exposed piping and the new unit eliminates recesses difficult to clean since it has only a flush-with-wall louvered panel covering the chilled water source. It produces ample chilled water for fifty persons per hour and is small enough to recess completely in most building partitions. It is easy to install and maintain and is available in models for one and two fountain service. The separate, removable louvered panel gives full access to the cooling unit and compressor. Crane Co., Dept. CUB, 836 S. Michigan Ave., Chicago 5. (Key No. 586)

Compartment-Type Water Cooler

A spacious refrigerated storage compartment is provided in the new compartment-type bottle water cooler recently introduced by Frigidaire. Food and beverages may be placed in the compartment located at the front of the all steel cabinet. The unit also freezes and stores two trays of ice. The water faucet is of the push button type. No plumbing attachments are needed and the unit operates by being plugged into any electrical outlet. The unit is well suited for instructors' rooms. Frigidaire Div., General Motors Corp., Dept. CUB, Dayton 1, Ohio. (Key No. 587)

Hot Dog Relish

A new product for the institutional food market is Hot Dog Relish packed in No. 10 tins, containing three quarts and three fluid ounces. It is designed for use with frankfurters, hamburgers, sandwiches, meat and cheese dishes and fish. The principal ingredients are mustard and chopped pickles. H. J. Heinz Co., Dept. CUB, 1062 Progress St., Pittsburgh 12, Pa. (Key No. 588)

Food Conveyors

Proportioned meals can be handled in the new Hot-Cold Food Conveyors recently introduced. Meals can be completely prepared and portioned on individual dishes at the centralized kitchen. A special heated platter serving system provides four hot compartments on the left of the conveyor to hold twelve individual proportioned meals. Two compartments on the right of the unit provide space for storage of cold foods. Dispensers for coffee and other liquids are mounted on the back wall of the conveyor just above the working counter.

The unit is constructed of aluminum and has four swivel-type casters with rubber treads for easy rolling to place of serving. A counter is provided for assembling hot and cold foods on trays and the conveyor is propelled by a push bar. Crescent Metal Products Co., Dept. CUB, 18901 St. Clair Ave., Cleveland 10, Ohio. (Key No. 589)

Surface Cleaner

"Once Over" is a new all-purpose cleaner used in solution with warm water for application on any type of surface or material that water alone will not harm. Its new formula provides a different cleaning action that floats dirt up and off any surface. It is a blend of four non-alkaline ingredients, is mild, and forms suds and foam in the hardest water. It is mopped liberally on the surface, allowed to remain six or eight minutes, then mopped up. Surfaces do not ordinarily have to be rinsed. The cleaner is versatile enough to work equally well on rough concrete floors or the finest waxed woodwork. Gerson-Stewart Corp., Dept. CUB, Foot of Lisbon Road, Cleveland 4, Ohio. (Key No. 590)

Group-Thinkometer

The Group-Thinkometer is a small electric meter with cord and button for each of ten different people. Each person presses a button to indicate his opinion. The dial shows the opinions of the group.

The instrument is designed for use in classrooms, public speaking groups and conferences where unbiased, unprejudiced and instantaneous group opinions are desired. Since opinions are recorded anonymously, results can be used to determine the effectiveness of a speech, a teaching plan or other program and thus permit improving the material presented.

Teachers using the Group-Thinkometer learn what material holds the interest of the students. Student participation through using the opinion buttons increases attention and interest. The Harward Co., Inc., Dept. CUB, 1216 Chicago Ave., Evanston, Ill. (Key No. 591)

Combination Cooking Equipment

The new combination of Garland commercial cooking equipment provides extra baking and roasting capacity. By combining the 186 line Garland restaurant range with the 2-29 Garland heavy duty baking and roasting oven, three separate ovens are provided in the unit, each oven with separate temperature con-



trols. The six burners are available in open top, hot top or fry top, or any combination of the three. The complete unit is especially useful for institutions and provides a versatile piece of equipment for food preparation. Detroit-Michigan Stove Co., Dept. CUB, 6900 E. Jefferson Ave., Detroit 7, Mich. (Key No. 592)

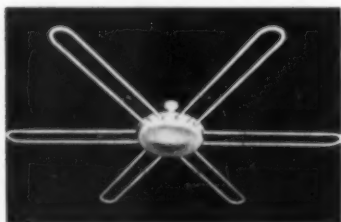
What's New...

Quick Frozen Steaks

The new Armour Beef Grill Steak is an all-beef product which has been molded and tenderized. It is designed for quick service and needs no defrosting. It can be prepared from the frozen state in four to five minutes. The new steaks give exact portion control and are good for use in sandwiches or on luncheon or dinner menus. They are available in four or five to the pound averages and are packed with paper dividers in a 10 pound box. **Armour and Company, Dept. CUB, Chicago 9. (Key No. 593)**

Classroom Lighting

Reflected glare is practically eliminated with the new six lamp cold-cathode low brightness Hairpin Lamp fixture recently



introduced. Designed especially for classroom lighting, the unit does not require

expensive louvers and can be installed on present outlets. Fifty foot candles of light on desk tops and approximately thirty foot candles on blackboards are said to be provided in a standard classroom with six of the new fixtures.

Rated at 15,000 hours, the lamps carry an unconditional guarantee by the manufacturer for two years against burnouts. The lamps and fixtures require little maintenance and are easily cleaned. **Illuminating Engineering Co., Dept. CUB, Hazel Park, Mich. (Key No. 594)**

Connolly Roller Grill

The Connolly Roller Grill is a method for the preparation of frankfurters without the necessity of constant attention. It has constant rolling action, ensuring uniform heating, and seals in all of the natural juices and flavor of the meat. It is stainless steel in construction and is easily kept clean. **J. J. Connolly Inc., Dept. CUB, 457 W. 40th St., New York 18. (Key No. 595)**

Improved Vacuum

The improved Model VA20 vacuum cleaner has a 60 inch water lift and ability to handle both wet and dry pick-up without changing the bag. It is ef-

(Continued on page 80)

ficient as a wet pick-up for completing rug and carpet scrubbing and shampooing and for heavy-duty dry pick-up. It has a 15 gallon tank of heavy-gauge metal with the inside rust and corrosion proofed with rubber enamel. The tank



is easily removed for emptying simply by removing three wing nuts. The tripod carriage has solid rubber casters which swivel so that the unit is easily pulled.

Standard equipment includes five foot extension handle, hose connector and fiber nozzle connector, 12 inch nozzle for dry pick-up, 12 inch nozzle with squeegee for wet pick-up, fiber crevice tool, and upholstery nozzle and brush. **Holt Mfg. Co., Dept. CUB, 669 20th St., Oakland 12, Calif. (Key No. 596)**

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FOREST PRODUCTS SINCE 1872

"LAYTITE" MAPLE FLOORING

MFMA Specifications

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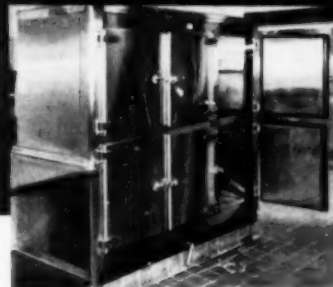
Behind the Mills—The Connor Timber Stands

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STAINLESS STEEL
REFRIGERATORS

Performance-Proved

at the
**UNIVERSITY
of
OKLAHOMA**



Herrick units were supplied by Goodner Van Engineering Company, Tulsa, Oklahoma.

The HERRICK Model RSS66 Double-Front Pass Through above is one of seven HERRICK Stainless Steel Refrigerators serving Oklahoma University's new Memorial Union Building at Norman. These capable HERRICK units assure the ultimate in fresh, flavorful foods. For trouble-free, low-cost-per-year service, HERRICK is tops. You'll like HERRICK. Write today for name of nearest HERRICK supplier.

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Dept. C Commercial Refrigeration Division

HERRICK *The Aristocrat of Refrigerators*

Flexible

ECONOMICAL TUBULAR STEEL SCHOOL FURNITURE



Table-Desk—Easy to Move
for Various Activities. With
All-Purpose Chair.



Tablet Arm Chair—For
Lecture Hall, Classroom.



Auditorium Chair Built for
Comfort and Service.

Movable Study-Top Chair
Unit in 7 Graded Sizes.



Movable Desk and Chair
Unit in 7 Graded Sizes.



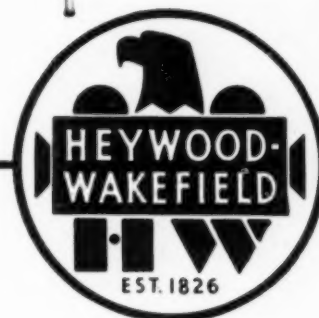
Plastic Top Table in 36
Graded Sizes.



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EXHIBITS AT THE AMERICAN ASSOCIATION OF
SCHOOL ADMINISTRATORS CONVENTION**

Atlantic City—February 14th through 19th

Booths: G-36, G-38, G-40 and G-42



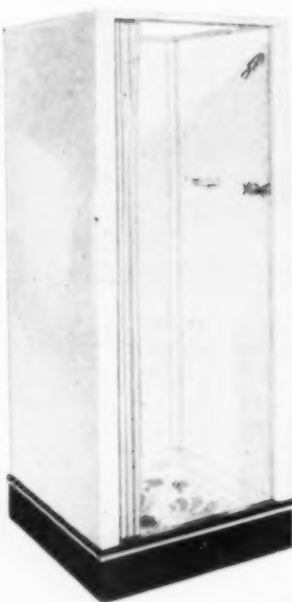
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MODERNIZE YOUR

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**QUALITY
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TO THE
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Trouble-free service, plus the finest in shower bathing facilities, are provided by Weisway Cabinet Showers. Guaranteed leakproof... Weisway's exclusive porcelain enamel receptor with textured Foot-Grip, No-Slip floor is safe, sanitary, positively non-absorbent and easy to keep spotlessly clean. Easily installed without special treatment of building walls or floor. *Weisway quality ends the trouble and cost of frequent repairs and replacements.* For lasting satisfaction and service, specify Weisway Cabinet Showers. Write for detailed information.

HENRY WEIS MANUFACTURING CO., INC.

239 Weisway Building, Elkhart, Indiana

"WALL-SAVER" Chairs

- PREVENT DAMAGE TO WALLS
- REDUCE CHAIR MAINTENANCE

The back legs of a "Wall-Saver" chair are flared out so that the chair cannot be tipped backwards. No rubber leg bumpers are needed—the bottoms of the legs abut the baseboard while there is still ample clearance between the back of the chair and the wall. This unusual design eliminates the strain to which an ordinary chair is subjected when the sitter "rocks" in it. It also prevents damage to both chair and wall caused by "resting" the back of the chair against the wall. As a result, "Wall-Saver" chairs can pay for themselves through savings.

Right: No. 1082
"Wall-Saver" Easy
Chair.

Left: No. 1089½ "Wall-
Saver" Straight
Chair. (Also available
with saddle wood
seat, or with uphol-
stered seat and back.)



Write
for
Bulletin
1005-A



"WALL-SAVER" Advantages

1. CANNOT BE TIPPED BACKWARDS
2. CHAIR CAN'T DAMAGE SIDE OR BACK WALL

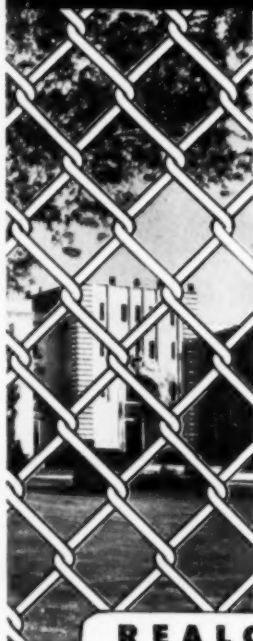
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GIVES

Positive

PROTECTION



Positive protection for your grounds and property is assured with Realock Fence. In addition, all fittings, hinges and locking devices have bolts on the inside, secure from outside tampering.

Noted for its rugged construction and long-lasting weather resistance, Realock Fence can be depended upon for years of dependable, trouble-free service.

For additional information write our nearest sales office or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION
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THE COLORADO FUEL & IRON CORPORATION

BRANCHES IN ALL KEY CITIES





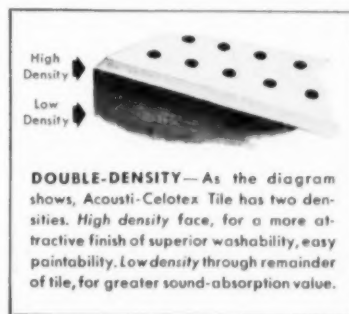
Quiet comes to a troublesome "Noise Center"

The hubbub of loud voices, shuffling feet, constant activity once made this beautiful foyer a noisy headache. Every sound echoed and re-echoed. The irritating din filtered into classrooms... distracting students and instructors, impeding distinct hearing, slowing progress.

Low-Cost Answer

But it's different now. Disturbing sounds are arrested at the source by economical Acousti-Celotex Sound Conditioning! A sound-absorbing ceiling of Acousti-Celotex Tile "blots up" noise, brings quiet comfort not only to foyers, but also gyms, cafeterias, libraries and study halls. In auditoriums,

classrooms and music rooms—it improves acoustics, creates conditions favorable to good hearing.



Easy Maintenance

Acousti-Celotex Tile is quickly installed, requires no special maintenance. Its remarkable *double-density* feature (see diagram) defies warping—provides a surface of unusual beauty and washability. Can be washed *repeatedly* and painted *repeatedly* with no loss of sound-absorbing efficiency!

MAIL COUPON TODAY for a Sound Conditioning Survey Chart that will bring you a *free analysis* of the noise and acoustical problems in your school, plus a factual free booklet, "Sound Conditioning for Schools and Colleges." No obligation!



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REGISTERED

U. S. PAT. OFF.

Sound Conditioning

Products for Every Sound Conditioning Problem—The Celotex Corporation, 120 S. La Salle St. Chicago 3, Illinois • In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec

—Mail today—

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120 S. La Salle St., Chicago 3, Illinois

Without cost or obligation, send me the Acousti-Celotex Sound Conditioning Survey Chart, and your booklet, "Sound Conditioning for Schools and Colleges."

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Address _____

City _____ Zone _____ State _____

What's New ...

Lightweight Vacuum Cleaner

Designed for small and intermediate cleaning operations, the new MCV-205B vacuum cleaner has a redesigned tank with a full five gallon capacity. The machine continues to have excellent wet or dry pickup ability and is easily moved about on rubber ball bearing swivel caster and two fixed rubber wheels. It can be carried by the handle on top and weighs only 36 pounds. **Multi-Clean Products, Inc., Dept. CUB, 2277 Ford Pkwy., St. Paul 1, Minn. (Key No. 597)**

Vers-A-Tilt Chalkboard

A tilted surface, which eliminates glare from natural or artificial light, is an outstanding feature of the new Vers-A-Tilt Chalkboard unit. The more natural writing position permitted by the tilt reduces writing fatigue and promotes better penmanship. The Vers-A-Tilt is a combination unit with chalkboard on one side and tackboard on the reverse. The board is easily reversed to reveal the side needed. The space behind the board may be utilized for keeping art materials, maps, papers and for other materials requiring storage.

The Vers-A-Tilt is flexible, versatile and adaptable. It is a packaged unit ready for installation. Each unit is three

feet long and is installed by means of four fastenings, reducing installation costs to a minimum. The unit is self-supporting and requires no grounds, adhesive, trim or backing. Chalkboards of any length are installed by utilizing a series of units. Chalk trough and display rail are furnished in continuous lengths to



accommodate any desired multiple of units. The unit may be shifted up or down 10 inches, as required, and is available with Clearcite green or black chalkboard on one side, tackboard on the reverse. **Claridge Equipment Co., Dept. CUB, 4608 W. 20th St., Chicago 50. (Key No. 598)**

(Continued on page 84)

Metal Corner Protection

A reinforcing product for outside corner angles, uncased door and window openings, pilasters, beams and soffits is offered in the new Perf-A-Bead metal corner protection for Gypsum Wallboard construction. It is easily installed with regular Perf-A-Tape cement and consists of a metal bead to protect the corner with Perf-A-Tape wings or flanges on each side. It is available in 8 foot lengths. **United States Gypsum Co., Dept. CUB, 300 W. Adams St., Chicago 6. (Key No. 599)**

E-Z Level Clip

Designed to eliminate the problem of leveling 1 1/2 inch standard furring channels, E-Z Level Clips work with No. 8 standard wire hangers commonly used in suspended ceiling construction and make it possible for every carrying member to be level. After the clip is attached, the channels are installed by raising and lowering a small locking gate on the lower half of the clip. In addition to economy, security and rigidity, the clip offers benefits in sound isolation value. **Suspended Ceilings Division, The Sany-metal Products Co., Inc., Dept. CUB, 2093 E. 19th St., Cleveland 15, Ohio. (Key No. 600)**

One of a Series

Selecting Gymnasium Seating?

Let's talk about SPACE SAVING!

It's one of the most important factors to consider when evaluating gymnasium seating.

When open, gymstands must provide a maximum number of seats in a minimum amount of floor space. When closed, stands must leave largest possible usable floor space for practice or gym classes.

You'll get both with Wayne Rolling Gymstands. For example, a 14-row Wayne Gymstand occupies only 24 feet 8 inches

of floor space when open, and is closed to a depth of only 2 feet 8 inches! Rolled back against the wall, the stand presents a flat surface vertical front, allowing 22 extra feet of usable floor space for the total length of the stand.

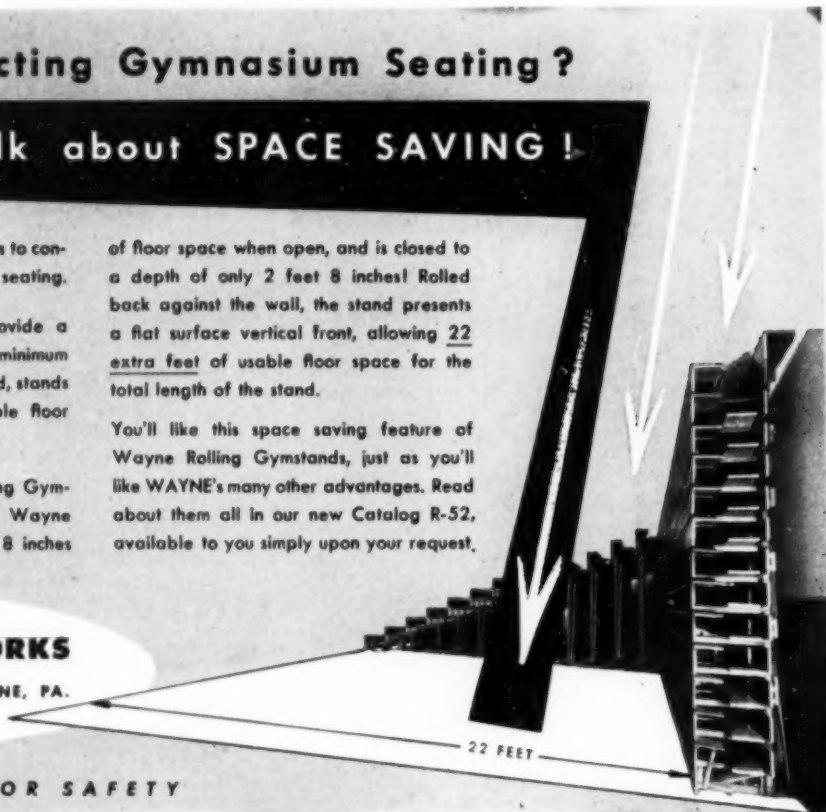
You'll like this space saving feature of Wayne Rolling Gymstands, just as you'll like WAYNE's many other advantages. Read about them all in our new Catalog R-52, available to you simply upon your request.

WAYNE IRON WORKS

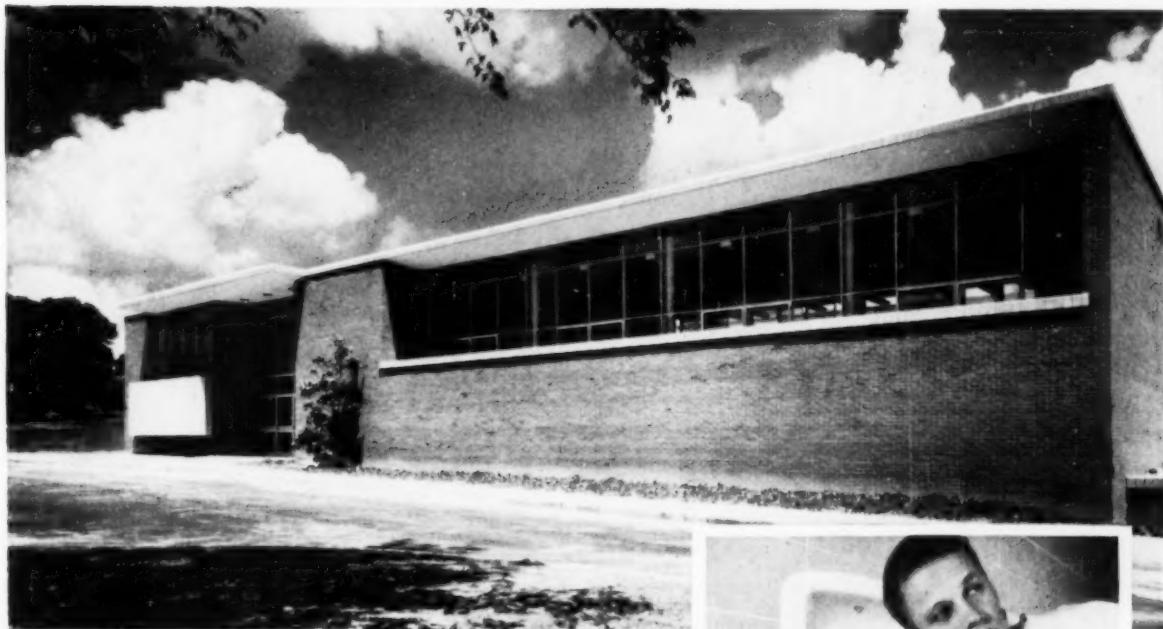
146 N. PEMBROKE AVE., WAYNE, PA.



WAYNE STANDS FOR SAFETY



GEORGIA TECH'S NEW ARCHITECTURE BUILDING



Architect:

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General Contractor:

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Mechanical Engineer:

E. R. Gritschke, Chicago, Illinois

Plumbing Contractor:

Mechanical Contractors & Engineers, Atlanta, Georgia

Specially planned for architectural students at Georgia Institute of Technology, Atlanta, Georgia, this new building features the finest study and drafting room facilities, as well as spacious Crane-equipped washrooms and easily accessible, recessed Crane drinking fountains for student comfort and convenience.

Crane equipment was chosen for the same reasons that make it the "preferred plumbing" at universities, colleges and schools everywhere—durability and dependability, ease of servicing, ease of maintenance, and quality that is recognized by architects as well as the boards and committees who approve budgets.

If you are planning new additions to your campus, let your architect and contractor know your preference for Crane.



Drinking fountain is the Crane Corridor with automatic stream regulator and self-closing valve. Recessed into wall, this model is a space-saver in busy corridors.



Lavatories chosen for Georgia Tech's new architecture building are easy to clean Crane vitreous china Norwich, model 1-200-C, with integral liquid soap chamber and Crane's exclusive finger-touch Dial-ese controls.

CRANE CO.

GENERAL OFFICES: 836 SOUTH MICHIGAN AVE., CHICAGO 5
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HOTELS	HALLS	BILLIARD HALLS
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No. 8032

For prices on these pieces as well as other furniture, see your dealer or write us for name of our dealer.

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MANUFACTURERS
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**for
admiring glances...**
for swimming pools and showers, of course



keep them sparkling bright and clean
the simple, easy way with



**"Bull Frog"
SAF-T-KLENZ**

the cleaner that works like magic removing rust, stains, soap oil, body grease, lime deposits and algae formations that so detract from the appearance and sanitary conditions of pools and showers. It also minimizes conditions that breed and spread infectious germs. Simply sprinkle a little Saf-T-Klenz Powder on the damp surface, mop lightly, then rinse with clear water. Odorless. Harmless to hands, clothing, floors and drains. Write for a generous free sample of Saf-T-Klenz and see for yourself how quickly and easily your pools and showers will be gleamingly clean with no hard rubbing. Sold with a guarantee of satisfaction.



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At your age!

If you are over 21 (or under 101) it's none too soon for you to follow the example of our hero, Ed Parmalee (above) and face the life-saving facts about cancer, as presented in our new film "Man Alive!"

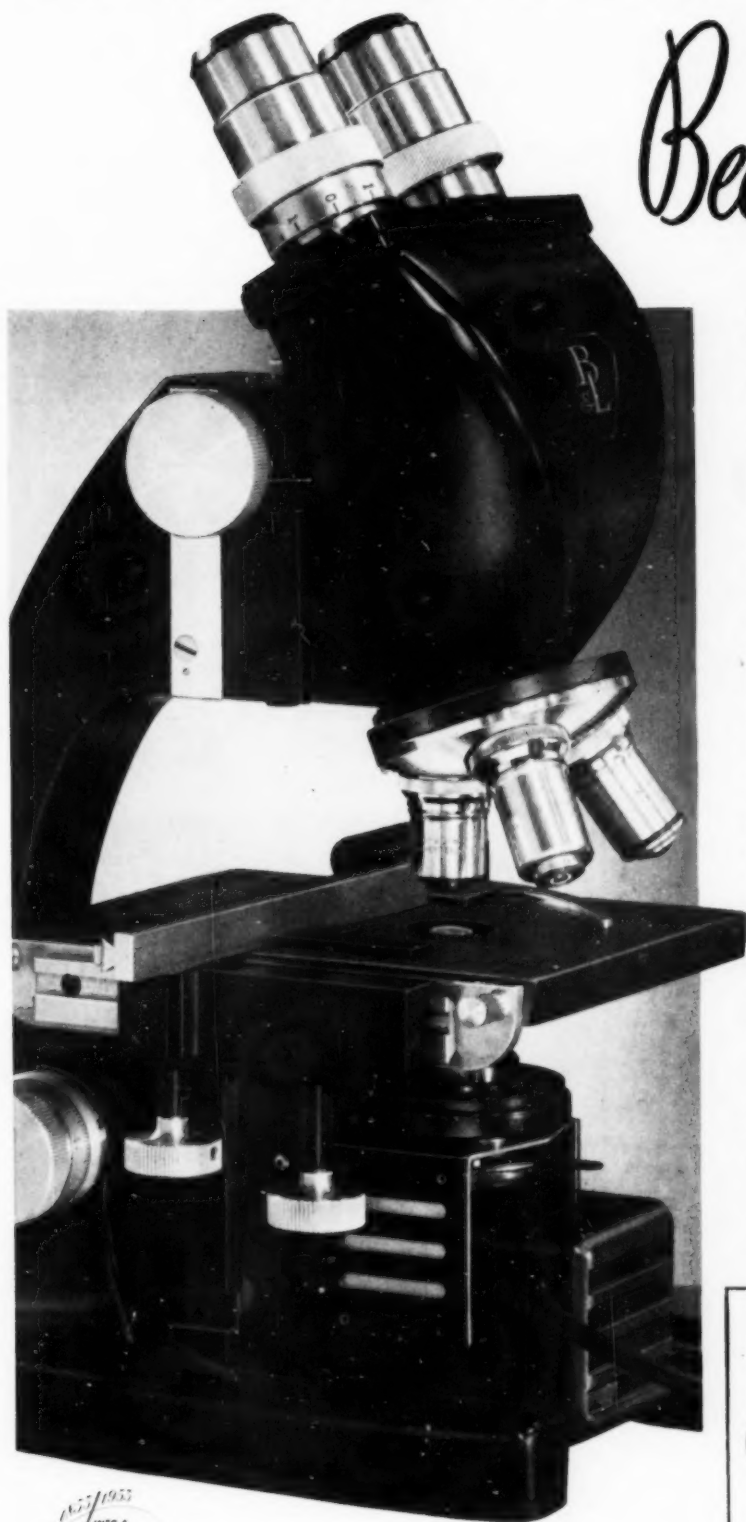
You and Ed will learn that cancer, like serious engine trouble, usually gives you a warning and can usually be cured if treated early.

For information on where you can see this film, call us or write to "Cancer" in care of your local Post Office.

American Cancer Society



FASTEST, EASIEST, MOST CRITICAL FOCUS EVER!



Because...



- The entire fine focusing system floats on ball bearings and rollers. No drift, no binding.



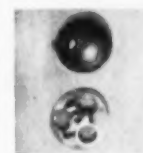
- Your hands are at rest on the table, completely relaxed, for fatigue-free operation of fine adjustment and mechanical stage controls.



- The one-piece 10× achromatic objective gives you longer working distance than ever before; enables you to search larger areas of the specimen.



- You're sure of accurate centration, year after year, with the pressure-loaded ball-bearing nosepiece. Objectives click into perfect alignment along optical axis.



- Enjoy these and the many other exclusive advantages of *the world's finest laboratory microscopes.*

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BAUSCH & LOMB
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LABORATORY MICROSCOPES

What's New . . .

Copyflex Machine

Any size form can be copied in seconds with the new desk-side Copyflex Model 14 photocopy machine. It is virtu-



ally automatic in operation and makes low-cost positive copies of practically anything typed, written, printed or drawn. The large copying width of 20 inches enables it to copy large sheets or ordinary letter size forms two at a time. Thousands of copies of different sizes can be produced on the Copyflex 14 in a day at a small cost.

The machine operates with practically no sound and requires no masters, inks, special lighting, exhaust ducts or installation. Less than a square yard of floor space is required for the machine which can be rolled on casters to any area

required and needs only to be plugged into a standard electrical outlet. The machine can be operated by unskilled personnel with a few minutes of instruction. **Charles Bruning Company, Inc., Dept. CUB, 125 North St., Teterboro, N.J. (Key No. 601)**

Autotronic Elevatoring

Autotronic Elevatoring is a new concept in elevator service for public buildings. Automatic supervision and electronic devices are combined to provide service without the need for attendants. These high-speed, electronically controlled, completely automatic elevators are designed to match elevator service to changing traffic flow. The starter sets the traffic flow dial for a given pattern and the Autotronic system takes complete charge of the cars. The system automatically readjusts itself when traffic surges momentarily alter normal operation. It automatically measures passenger waiting time and prevents overlong waits.

The electronic signaling buttons operate by touch, rather than by push, and light up to register calls. Passengers step into the car and press the buttons for the floors they want. The elevator stops automatically and the doors open and close without delay, remaining

open or reopening only when a passenger is entering or leaving. Full Otis automatic service is provided in attractive Otis cars for this completely new system of Autotronic elevator service. **Otis Elevator Co., Dept. CUB, 260 Eleventh Ave., New York 1. (Key No. 602)**

Ceiling Luminaires

Gar-Sec-Lite is a new series of fluorescent ceiling fixtures designed to embody quality features at low prices. The new fixtures are of the general-diffuse type, providing approximately 50 per cent direct and 50 per cent indirect light distribution. Side panels are available in plastic, metal or illuminated metal. Both 2 lamp and 4 lamp units are available for standard fluorescent or slimline lamps. The louvers are lowered by releasing spring catch at either or both ends for



ease in cleaning and relamping. Only one end of the louver need be lowered for relamping. **Garden City Plating and Manufacturing Co., Dept. CUB, 1750 N. Ashland Ave., Chicago 22. (Key No. 603)**

(Continued on page 88)



**ALL STEEL
FILM STRIP
CABINET**

**PROTECTS
YOUR
FILM!**





MF-6

- Holds 336 1 1/2" Film Strip cans
- Each can held in separate compartment
- Individual and master index
- Holds film strips of varying lengths
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- Six removable drawers with back stops.

For Complete Film Equipment

Film Cabinets	• Projection Tables
Rewinds	• Splicers
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**FOLDING
TABLES**



**ADJUSTABLE HEIGHT TABLES
ANY HEIGHT—30 TO 20 INCHES**

DIRECT PRICES TO INSTITUTIONS—Ask for catalog showing 54 different sizes and types of Monroe tables.



MONROE FOLDING CAFETERIA TABLES—Available in standard heights of 30 inches, or special fixed heights, 20 inches and up.

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THE Monroe COMPANY
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If you're *not* using Presto discs at present, then it's time for a change. The reason, in one word . . . quality! From the meticulous preparation of the aluminum base in the Presto plant to the final play-back in the studio, quality is the byword . . . your assurance of consistent performance, unmatched fidelity of reproduction, long service. That's why Presto is the proven leader in the professional disc field . . . a leader that merits your consideration when you decide that it's time for a change . . . right now.



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ORLD'S LARGEST MANUFACTURER OF PRECISION RECORDING EQUIPMENT AND DISCS

*Increased visibility, greater convenience
reported in lecture rooms using*
**NEW AMERICAN UNIVERSAL
ANGLE TABLES**



*Lecture Room, New York University Law School, Architects: Eggers and Higgins,
Contractor: John Lowry Company*

The following advantages, not afforded by other lecture-room furniture, are assured by the new American Universal Angle Table combined with No. 406 Pedestal Chairs.

- All students can see the instructor.
- The instructor can see all students.
- Cleaning around pedestals is easy and rapid.
- Clear passageways are maintained between chair backs and tables by fixed-to-floor pedestals.
- Swivel chairs provide greater freedom to perform, in addition to easy ingress and egress.

American Universal Angle Tables and Pedestal Chairs provide continuous working surfaces, in straight rows, or on any arc. Excellent for large or small lecture rooms, on level or sloping floors, with or without risers. Offset steel pedestals leave ample leg room. Table tops are bonded plywood, lacquered in light, natural finish, as are the adjustable, cradleform, swivel seats, and deep-curved backs. Tables 29" high, in widths from 16" to 24", and in lengths as desired. Write for complete information.



American Bodiform Auditorium Chair

Maximum comfort, durability, acoustical benefit, and housekeeping economy are embodied in this most beautiful of full-upholstered auditorium chairs. Automatic, uniform-folding, silent, $\frac{3}{4}$ safety-fold seat action allows more room for passing, sweeping; no pinching or tearing hazards. Also available with folding tablet-arm.

American Seating Company

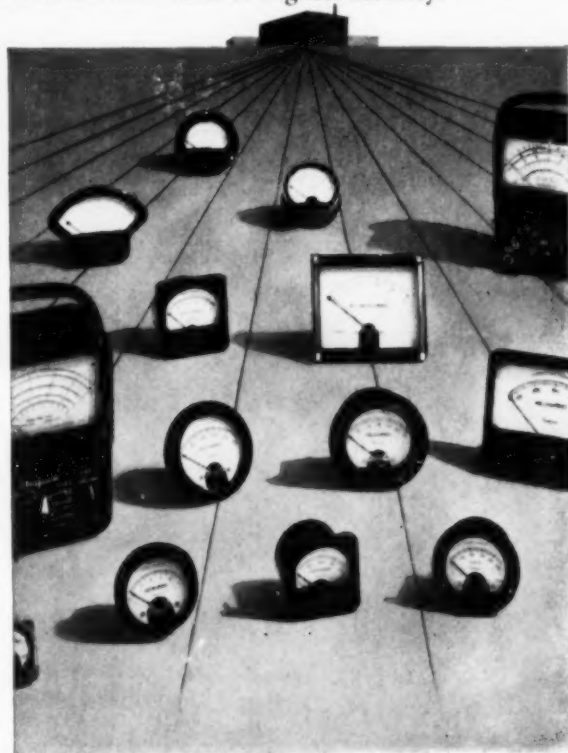
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Grand Rapids 2, Michigan, Branch Offices and Distributors in Principal Cities
Manufacturers of School, Auditorium,
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**for TOMORROW'S
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To provide your engineering students and faculty the very best electronic test equipment *specify Simpson—instruments that stay accurate!*

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Please send me the Simpson catalog showing complete line of Simpson Electrical Instruments and Test Equipment.

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The newest tops for a New laboratory at M.I.T.



WHEN M. I. T. ordered more than 500 new custom-built tables for a new Laboratory, G-E Textolite Blondwood was selected for the work tops.

G-E Textolite wears like iron and cleans like glass. It has non-glaring light reflectance and natural wood appearance. It cleans with the swish of a damp cloth. Textolite isn't stained by ink or foods — it resists boiling water,

ordinary chemicals, even burning cigarettes.

Yes, whether it's a Halls of Ivy Institution or a Little Red Schoolhouse, if it's long life and low maintenance you want in desk tops, tables and other school furnishings, be sure they're surfaced with G-E Textolite.

Call in a Roddiscraft representative from any one of the warehouses listed below or write for complete information.

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NATIONWIDE Roddiscraft WAREHOUSE SERVICE

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Roddiscraft

RODDIS PLYWOOD CORPORATION
Marshfield, Wisconsin

What's New . . .

Plastic Brite Kit

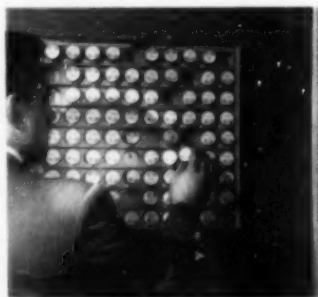
Stains are quickly and easily removed from plastic dishes with the new Plastic Brite Kit material. Dishes are soaked for one minute in each of two solutions prepared by dissolving one ounce of the powdered materials in one gallon of water. Chemicals used are harmless to skin and to plastics, yet remove even stubborn stains. The kit is inexpensive. Kelite Products, Inc., Dept. CUB, 1250 N. Main St., Los Angeles 12, Calif. (Key No. 604)

Filmstrip Wall-File

To provide a convenient place to keep filmstrips out where they can be seen and selected easily, the Filmstrip Wall-File hangs securely on the wall. Filmstrips can be filed easily in a manner similar to that of placing a book on a bookshelf. They are filed in an organized manner for easy finding and filing. The individual key-numbered compartments will accommodate 90 filmstrips for an individual classroom or for a department.

The Wall-File hangs flat, using two key-hole type hangers. Expansion is limited only to the wall space available. Additional units can be bolted vertically or horizontally to the original unit. One

unit attaches to the next in any direction required and the Wall-File is designed for large and growing libraries of filmstrips. Each unit is made of heavy gauge steel, finished in hammerloid silver gray, and is 17½ by 19½ by 1¼ inches in size. Jack C. Coffey Co., Dept. CUB, 1124 Greenleaf, Wilmette, Ill. (Key No. 605)



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Light Weight Furnace Cleaner

The new Nu-Vac Furnace Cleaner weighs only 25 pounds and has a disposable bag. It is ruggedly constructed for heavy service and has a 5/7 h.p. universal ball bearing motor with two-stage turbine fan giving 56 inch water lift. The disposable paper bag cannot clog suction and is inside the can, above

(Continued on page 92)

dirt, while in operation. The dirt is bagged when the can is turned upside down after use and then is disposed of without opening the bag. An outer cloth bag reinforced with wire frame surrounds the paper bag as protection against blowouts. The machine is quiet in operation and is finished in blue hamertone. Empire Chemical Products Co., Dept. CUB, 10 Longworth St., Newark, N.J. (Key No. 606)

Incandescent Lighting Fixture

The new Silvray Super 1500 incandescent lighting fixture is designed for ease of installation and maintenance. The new unit has an improved design to eliminate direct and reflected glare. It is built around a silvered-bowl lamp and is made as ceiling or pendant-type in 150 to 200 watt, 300 to 500 watt and 750 to 1000 watt sizes.

The new unit can be quickly installed in a ceiling outlet box through a special locking device. Instant release for maintenance is as easily accomplished. The pendant model is also designed so that the stem can be shortened without disassembling and rethreading it. A new rust-proofing primer protects the unit against corrosion. It has a baked enamel finish. Silvray Lighting, Inc., Dept. CUB, Bond Brook, N.J. (Key No. 607)

If it's a
WITT
it will
REALLY
last!



WITT CANS and PAILS are designed and constructed to withstand years of hard usage and abuse. Every detail from the special analysis steel to the rust-resisting hot-dip galvanizing reflects the inherent quality of being able to "stand the gaff." Buy WITT and you buy the best quality—more for your dollar than that offered by any similar container regardless of price.

Compare WITT CAN and PAIL features with others on these points . . .

- STRAIGHT SIDES
- DEEP ROLLING CORRUGATIONS
- HEAVY GAUGE STEEL
- STEEL BANDS
- HOT DIP GALVANIZING
- STURDY LID

WITT CANS AND PAILS HAVE THE "RIGHT" ANGLE

Witt Cans

THE WITT CORNICE CO.
2123 WINCHELL ST.
CINCINNATI 14, OHIO
Originators of Corrugated Can

THE TABLE-ARM
CHAIR THAT'S
Comfortable
AND
STURDY!

**PRACTICAL
DESIGNING
MEANS
PLUS VALUES**

- Ideal for class or lecture room.
- Large Tablet Arm in natural position.
- Comfortable saddled seat.
- Heavy cast iron base.
- Solid hard maple seat and tablet arm.
- Available with bookrack if required.
- Finished in tough scratch resisting "Celsyn."

"No one ever regretted
Buying Quality"



"Suntan Color"
engineered
color harmony.

No. 315
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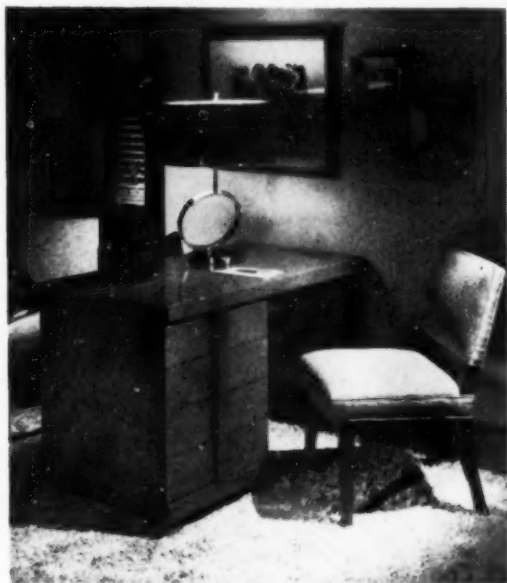
PEABODY SEATING COMPANY, INC.
NORTH MANCHESTER, INDIANA

COLLEGE and UNIVERSITY BUSINESS



American Informal is crafted of richly grained Celtis, a native hardwood with the durable "Driftwood" finish

Practical answer to the problem of furnishing college rooms...



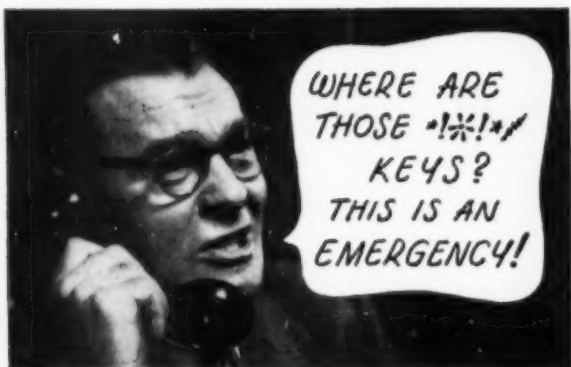
American Informal Furniture by Tomlinson is the perfect answer to the problems of space, durability and affordable prices ... for student rooms, lounges, dormitories, sororities and fraternities.

Furniture for college rooms must be smart and at the same time designed to take exceptionally hard usage. It must be easily adaptable to any room. It must be compact and comfortable. Handsome *American Informal* groupings pass every test. What's more, this painstakingly crafted furniture is styled as well as constructed to give years and years of service. For complete facts, write to Contract Division, Furniture by Tomlinson, High Point, North Carolina.

American Informal *



* T M REG. U. S. PAT. OFFICE



**THAT'S THE PROBLEM—
HERE'S THE ANSWER!**



- Any key instantly available — lost keys never a problem
- Neat, compact metal cabinet — easy to set up and operate
- Expansion unlimited
- Control by secret code

Why not send for **FREE** color brochure, "The Missing Link" which tells you all about our equipment. It's yours without obligation — address requests to

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"Water Rolls Off DOLCOWAX too!"

ON EVERY COUNT
IT'S TOPS IN FLOOR WAX!

DOLCOWAX

- ... repels water. Moisture will not mar its lustrous, satiny wax film;
- ... handles well, spreads and levels easily without streaking;
- ... needs no rubbing or polishing;
- ... dries quickly to a long-lasting attractive, protective surfacing for your floors;
- ... welcomes heavy traffic, because traffic improves its lustre;
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DOLGE guarantees that, regardless of price, no other wax will outwear DOLCOWAX! Let your DOLGE Service Man demonstrate—or write us for details.

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of your premises
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DOLGE SERVICE MAN

**Dependable
DOLGE**

WESTPORT, CONNECTICUT

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This Modern Steel Rack

**Accommodates 50
in 5 Feet!**



Keep wraps aired and in press—save space... lengths to fit in anywhere. Individual coat rack units for self-service or complete Check-room layouts with the "One Check" numbering system. Six, 12, and 24 place costumers. Combination rack and locker units or complete locker rooms.

Checker equipment is widely used in schools, public buildings and institutions. Standard with leading architects.

Stationary—Portable. Write for Bulletin No. CK25.



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**There's SAFETY in this key
provide locker**

SECURITY

without headaches

**... use
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An exclusive with Dudley P-570—a Master Key that provides locker security without headaches. Emergency locker openings are quickly and easily made with this unique Dudley P-570 key, cut accurately by code only. It can not easily be duplicated by commercial locksmiths. This assures you of the utmost in locker security.

The RD-2 below, is another best-seller in the fine Dudley line.

Write for catalog and details of the Dudley Self-Financing Plan.



P-570

Master-Keyed combination with the **SAFE** Dudley key

RD-2

Rotating Dial combination with Master-Chart control



DUDLEY LOCK CORPORATION

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Mr. Superintendent

it's not
just a
wastebasket—
it's a

VUL-COT
TRADE MARK



New Rectangle—5A



New Square Top—2A

When you buy Vul-Cots, you are getting more than a mere receptacle for holding waste paper. You are buying economical waste handling, for years. Every Vul-Cot you purchase carries with it a 5-year guarantee. Cut your maintenance and replacement costs—end your waste handling worries now—just say Vul-Cot.

The two Vul-Cots illustrated are *new* in the line. All Vul-Cots are made of hard vulcanized fibre, they look better and last longer. Colors do not chip off; double rolled tops do not break. They are lightweight, noiseless . . . exclusive bonded seam construction gives added strength. Vul-Cots do not crack, splinter, dent, rust or corrode. Standard colors: maroon-brown and olive-green. Write today for catalog price sheet— Dept. CU-2.

For Sale by Stationers and
School Supply Houses Everywhere

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VULCANIZED FIBRE CO.
Wilmington • Delaware



INSTITUTIONS PLEASE NOTE

SPENCERS

TAKE TO WATER

LIKE A DUCK!



Spencer commercial portables will give you both wet and dry pick-up. Where wet scrubbing is necessary, the quickest, cleanest and most practical way is to wash the floor thoroughly and then follow immediately with the Spencer wet pick-up, which removes all excess water leaving in time and effort. This method is recognized by many building superintendents as being more effective for periodic cleaning of terrazzo, linoleum and tile floors. They often do this job once a week and vacuum the bare floors every night.

A unique use for the wet pick up is for cleaning upholstery. The chairs, divans, etc., are shampooed and then immediately wet vacuumed to give them a thorough cleaning job. Various types of tank containers for collecting the water are available. The right size for your job depends upon the amount of water to be picked up.

ABOVE . . . A PAGE OF OUR 32-PAGE BOOK
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COMPLETE BOOK ON REQUEST

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2SPB3

What's New . . .

Floor Wax

Beautiflor Traffic Wax is a product that cleans as it waxes. It was developed to provide a water-free maintenance method for wood, linoleum, cork and terrazzo floors. Soap and water scrubbing are not necessary as the dry cleaning agents in the product remove dirt from the floor as the wax is applied. It dissolves old wax films and leaves a new and durable coat of protective wax. Heavy traffic areas can be easily touched up since the new product does not show lap marks. S. C. Johnson & Son, Inc., Dept. CUB, Racine, Wis. (Key No. 608)

Rubber Tile Flooring

A new line of rubber tile flooring has been introduced under the Gold Seal label for institutional installation. The colors are clear and true in the new quality rubber tile. It is designed to create floors that are resilient, durable and resistant to water and grease. The tile has sound-insulating properties and has a smooth, polished surface. It is resistant to alkali, cleaning agents and light and the color and design extend through the thickness of the tile. Gold Seal Rubber Tile is available in 6 by 6, 9 by 9, 12 by 12 and 18 by 27 inch sizes. Congoleum-Nairn, Inc., Dept. CUB, 195 Belgrove Drive, Kearny, N.J. (Key No. 609)

Improved Electron Microscope

An improved table microscope, Type EMT-3, has been introduced which permits more simplified operation. An external alignment for the pole piece and a new type of vacuum gauge allow precise alignment of the specimen in the instrument and provide a positive indication when the equipment is ready for operation. An improved version of the Universal model electron microscope, Type EMU-2D, is also available. It is capable of selected area diffraction as well as producing the usual transmission-type diffraction patterns. Also available is an EMV-6 shadow-caster, used to prepare shadowcast microscope specimens to enhance contrast and bring out third-dimensional effects.

Also introduced recently is a new multiple-exposure film holder which makes it possible to record 20 micrographs on 35 mm. film in an electron microscope without breaking the vacuum. The new attachment for the Type EMT table model electron microscope is designed for making wider area micrographs and makes it possible to obtain multiple exposures, at the same or different focal lengths, without changing film. RCA Victor Div., Radio Corporation of America, Dept. CUB, Camden, N. J. (Key No. 610)

Product Literature

- A revised edition is now available of the **Kodak Data Book, "Slides,"** issued by the Eastman Kodak Co., Rochester 4, N. Y. This Fourth Edition carries recommendations and data on films, cameras and projectors for slide making and has references to obsolete equipment and materials which have been eliminated. It provides a comprehensive reference manual for all photographic workers interested in producing their own slides. The book sells at 50 cents per copy. (Key No. 611)

- A complete catalog of the **Wear-Ever Aluminum line** has recently been released by the Aluminum Cooking Utensil Co., New Kensington, Pa. The 76 page booklet describes and illustrates the full line. It is divided into eight sections, each in a different color, describing heavy-duty range utensils, standard restaurant utensils and service ware, domestic utensils, equipment for the food industry, steam-jacketed kettles and urns, clinical utensils and equipment, cutlery and aluminum alloy furniture. It is available with loose-leaf sheets multi-punched to fit any type binder and is fully indexed by subject, number and description. (Key No. 612)

- **"Standard Specifications for Industrial Lighting Units"** is the title of a booklet offered by RLM Standards Institute, Inc., 326 W. Madison St., Chicago 6. It is designed as an aid to anyone who buys, specifies or recommends commercial lighting equipment. The 44 page booklet contains detailed specifications for eighteen of the most commonly employed incandescent and fluorescent lighting units. Included are two new specifications as well as important revisions and clarifications of existing specifications, and new tables of typical coefficients of utilization and light distribution curves. (Key No. 613)

- The story of **Square D motor control** is told in a booklet released by Square D Company, 4041 N. Richards St., Milwaukee 12, Wis. The company's field engineering service, drafting department, and job shop engineering are discussed. Actual photographs of manufacturing operations are supplemented by descriptive text telling the story of manufacturing and design operations. (Key No. 614)

- **Nine 16 mm. sound motion pictures**, all but two in color, are available from the film lending library of E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del. Ranging from 19 to 39 minutes running time, the films cover such subjects as nylon, rayon fabrics, dyes and chemical research as well as the story of the company's growth. They are loaned without charge. (Key No. 615)

- **"Common Sense in Classroom Lighting"** is the title of a comprehensive booklet on the subject published by the Holophane Company, Inc., 342 Madison Ave., New York 17. The text is illustrated by line drawings of classroom arrangements and "field of view" diagrams as well as photographs. Subjects covered in the 16 page booklet include minimum requirements for lighting, how to improve the quality of the lighting, how to secure maximum utilization of light; engineering proof of methods; results in illumination, brightness, comfort and cost, and comfort response vs. illumination level for various ceiling heights and lamp sizes. (Key No. 616)

- A folder on **Kewanee Square-Heat Boiler for Oil, Gas or Stoker Firing** is available from Kewanee-Ross Corporation, Kewanee, Ill. Describing the boiler as designed for heating medium sized buildings dependably with high efficiency, the folder tells the story of this versatile boiler and its operation and uses. (Key No. 617)

- A new brochure stressing the low up-keep costs and demonstrating the value of marble in remodeling and renovating buildings has been issued by the Marble Institute of America, Inc., 108 Forster Ave., Mount Vernon, N. Y. Entitled **"Marble Costs Less, Wears Better, Lasts Longer,"** the brochure features specific buildings and copies of letters from building managers testifying to their satisfaction with marble for floors, wainscoting, walls and other uses. (Key No. 618)

- **How Draper Darkening Shade equipment** can solve school problems is told in a new folder on the subject released by the Luther O. Draper Shade Co., Spiceland, Ind. Complete descriptive information and illustrations of construction and of installations of Draper Lite-Lock Darkening Shades, the X-L unit and skylight shading are included in the folder. (Key No. 619)

- Wincinator commercial incinerators are fully illustrated and described in a new four page folder, **"Pays for Itself,"** recently released by the Winnen Incinerator Co., 932 Broadway, Bedford, Ohio. Complete information on installation and operation of these incinerators as well as data on automatic controls and special equipment are included. (Key No. 620)

Supplier's News

Libbey Glass, Division of Owens-Illinois Glass Co., Toledo 1, Ohio, manufacturer of table glassware, announces that it is producing its product in Los Angeles in the plant of the parent organization as of December 2. It is the first expansion of production beyond the home plant in the company's 134 year history.

PRODUCT INFORMATION

Index to "What's New"

Pages 75-92

Key	Page	Key	Page	Key	Page
586 Water Cooling Unit Crane Co.		598 Vers-A-Tilt Chalkboard Claridge Equipment Co.		610 Improved Electron Microscope RCA Victor Div., Radio Corporation of America	
587 Compartment-Type Water Cooler Frigidaire Division, General Motors Corp.		599 Metal Corner Protection United States Gypsum Co.		611 "Slides" Eastman Kodak Co.	
588 Hot Dog Relish H. J. Heinz Co.		600 E-Z Level Clips The Sanymetal Products Co., Inc.		612 Wear-Ever Aluminum Catalog Aluminum Cooking Utensil Co.	
589 Hot-Cold Food Conveyors Crescent Metal Products Co.		601 Photocopy Machine Charles Bruning Co. Inc.		613 "Standard Lighting Specifications" RLM Standards Institute, Inc.	
590 Surface Cleaner Gerson-Stewart Corp.		602 Autotronic Elevator Otis Elevator Co.		614 Square D Motor Control Square D Company	
591 Group-Thinkometer The Harwald Co., Inc.		603 Ceiling Luminaires Garden City Plating & Mfg. Co.		615 Color Films E. I. du Pont de Nemours & Co., Inc.	
592 Combination Cooking Equipment Detroit-Michigan Stove Co.		604 Plastic Brite Kit Kelite Products Inc.		616 "Common Sense in Classroom Lighting" The Holophane Co., Inc.	
593 Quick Frozen Steak Armour & Co.		605 Filmstrip Wall-File Jack C. Coffey Co.		617 Kewanee Square-Heat Boiler Kewanee-Ross Corp.	
594 Hairpin Lamp Classroom Fixture Illuminating Engineering Co.		606 Furnace Cleaner Empire Chemical Products Co.		618 "Marble Costs Less" Marble Institute of America, Inc.	
595 Connolly Roller Grill J. J. Connolly Inc.		607 Incandescent Lighting Fixture Silvray Lighting Inc.		619 Draper Darkening Shade Equipment Luther O. Draper Shade Co.	
596 Improved Vacuum Cleaner Holt Manufacturing Co.		608 Beautiflor Traffic Wax S. C. Johnson & Son Inc.		620 "Pays for Itself" Winnen Incinerator Co.	
597 Lightweight Vacuum Cleaner Multi-Clean Products Inc.		609 Rubber Tile Flooring Congoleum-Nairn, Inc.			

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Index to "What's New"

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Page

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February, 1953

Please ask the manufacturers, indicated by the numbers I have circled, to send further literature and information provided there is no charge or obligation.

WHAT'S NEW					ADVERTISEMENT									
586	587	588	589	590	621	622	623	624	625	626	627	628	629	630
591	592	593	594	595	631	632	633	634	635	636	637	638	639	640
596	597	598	599	600	641	642	643	644	645	646	647	648	649	650
601	602	603	604	605	651	652	653	654	655	656	657	658	659	660
606	607	608	609	610	661	662	663	664	665	666	667	668	669	670
611	612	613	614	615	671	672	673	674	675	676	677	678	679	680
616	617	618	619	620	681	682	683	684	685					

NAME				TITLE			
INSTITUTION							
ADDRESS		CITY		ZONE		STATE	

February, 1953

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WHAT'S NEW					ADVERTISEMENT									
586	587	588	589	590	621	622	623	624	625	626	627	628	629	630
591	592	593	594	595	631	632	633	634	635	636	637	638	639	640
596	597	598	599	600	641	642	643	644	645	646	647	648	649	650
601	602	603	604	605	651	652	653	654	655	656	657	658	659	660
606	607	608	609	610	661	662	663	664	665	666	667	668	669	670
611	612	613	614	615	671	672	673	674	675	676	677	678	679	680
616	617	618	619	620	681	682	683	684	685					

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Key

621 American Bitum
Tennis Court S

622 American Chair
School Furnitu

623 American Seatin
School Seating

624 Bausch & Lomb
Laboratory Mi

625 Bay West Paper
Paper Towel

626 Berman Chemica
Swimming Pool

627 Blickman, Inc.,
Food Service

628 Brunswick-Balke
School Furnitu

629 Brush Developm
Tape Recorder

630 Burroughs Addi
Accounting M

631 Carrom Industri
Dormitory Fur

632 Celotex Corpora
Acoustical M

633 Clarin Mfg. Co
Tablet Arm Cl

634 Colorado Fuel
(Wickwire
The Californ
Wire Fence..

635 Connor Lumbe
Maple Floori

636 Crane Compan
Plumbing Eq

637 Dick Company,
Duplicating E

638 Ditto, Inc.
Duplicating E

639 Dolge Compan
Floor Mainte

640 Don & Compan
Institutional

641 Dudley Lock C
Locks

Index to Products Advertised

Page	Key	Page	Key	Page	
American Bitumuls & Asphalt Co. Tennis Court Surfacing Material	56	642 Eastman Kodak Company Projector	63	664 National School Furniture Co. School Furniture	74
American Chair Company School Furniture	82	643 Eichenlaubs Institutional Furniture	78	665 National Vulcanized Fibre Co. Wastebaskets	91
American Seating Company School Seating	86	644 Finnell System, Inc. Floor Machines	4th Cover	666 Neumade Products Corporation Film Strip Cabinet	84
Ausach & Lomb Optical Company Laboratory Microscopes	83	645 General Fireproofing Company Metal Furniture	9	667 Peabody Seating Company School Furniture	88
ay West Paper Company Paper Towel Dispenser	70	646 Harper & Brothers Book	72	668 Pittsburgh-Des Moines Steel Co. Steel Grandstands	55
erman Chemical Company Swimming Pool Cleaner	82	647 Heinz Company, H. J. Institutional Food	13	669 Presto Recording Corp. Recording Discs	85
lickman, Inc., S. Food Service Equipment	7	648 Herrick Refrigerator Company Refrigerators	76	670 Radio Corporation of America Projector	67
Brunswick-Balke-Collender Co. School Furniture	10, 11	649 Heywood-Wakefield Company School Furniture	77	671 Roddis Plywood Corporation Table Surfacing Material	87
rush Development Company Tape Recorder	60	650 Hillyard Chemical Company Floor Maintenance	14	672 Schulmerich Electronics, Inc. Carillon Bells	68
urroughs Adding Machine Co. Accounting Machines	12	651 Horn Brothers Company, Div. of Brunswick-Balke-Collender Co. Folding Gymseats & Partitions	69	673 Sexton & Company, John Institutional Food	53
arrom Industries, Inc. Dormitory Furniture	57	652 International Business Machines Corp. Electric Typewriters	15	674 Simpson Electric Company Electrical Instruments	86
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Clarín Mfg. Company Tablet Arm Chair	58	654 Kellogg Company Institutional Food	8	676 Sloan Valve Company Flush Valves	1
Colorado Fuel & Iron Corp., The (Wickwire Spencer Steel Div., The California Wire Cloth Corp.) Wire Fence	78	655 Keyes Fibre Sales Corporation Plastic Tableware	62	677 Spencer Turbine Company Floor Maintenance Equipment	91
Connor Lumber & Land Company Maple Flooring	76	656 Laboratory Furniture Company, Inc. Laboratory Furniture	16	678 Tomlinson of High Point, Inc. Institutional Furniture	89
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Ditto, Inc. Duplicating Equipment	73	659 Medart Products, Inc., Fred Gymnasium Apparatus	5	681 Vonnegut Hardware Co., Van Duprin Division Fire & Panic Exit Devices	2
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Dudley Lock Corporation Locks	90	662 Moore, Inc., P. O. Key Control	90	684 Weis Mfg. Company, Inc., Henry Cabinet Showers	78
		663 National Biscuit Company Institutional Food	3rd Cover	685 Witt Cornice Company Refuse Cans	88

Index to Products Advertised

Key	Page	Key	Page	Key	Page
621 American Bitumuls & Asphalt Co. Tennis Court Surfacing Material	56	642 Eastman Kodak Company Projector	63	664 National School Furniture Co. School Furniture	74
622 American Chair Company School Furniture	82	643 Eichenlaubs Institutional Furniture	78	665 National Vulcanized Fibre Co. Wastebaskets	91
623 American Seating Company School Seating	86	644 Finnell System, Inc. Floor Machines	4th Cover	666 Neumade Products Corporation Film Strip Cabinet	84
624 Bausch & Lomb Optical Company Laboratory Microscopes	83	645 General Fireproofing Company Metal Furniture	9	667 Peabody Seating Company School Furniture	88
625 Bay West Paper Company Paper Towel Dispenser	70	646 Harper & Brothers Book	72	668 Pittsburgh-Des Moines Steel Co. Steel Grandstands	55
626 Berman Chemical Company Swimming Pool Cleaner	82	647 Heinz Company, H. J. Institutional Food	13	669 Presto Recording Corp. Recording Discs	85
627 Blickman, Inc., S. Food Service Equipment	7	648 Herrick Refrigerator Company Refrigerators	76	670 Radio Corporation of America Projector	67
628 Brunswick-Balke-Collender Co. School Furniture	10, 11	649 Heywood-Wakefield Company School Furniture	77	671 Roddis Plywood Corporation Table Surfacing Material	87
629 Brush Development Company Tape Recorder	60	650 Hillyard Chemical Company Floor Maintenance	14	672 Schulmerich Electronics, Inc. Carillon Bells	68
630 Burroughs Adding Machine Co. Accounting Machines	12	651 Horn Brothers Company, Div. of Brunswick-Balke-Collender Co. Folding Gymseats & Partitions	69	673 Sexton & Company, John Institutional Food	53
631 Carrom Industries, Inc. Dormitory Furniture	57	652 International Business Machines Corp. Electric Typewriters	15	674 Simpson Electric Company Electrical Instruments	86
632 Celotex Corporation Acoustical Material	79	653 Johns-Manville Plastic Floor Tile	61	675 Sloan Valve Company Shower Heads	59
633 Clarin Mfg. Company Tablet Arm Chair	58	654 Kellogg Company Institutional Food	8	676 Sloan Valve Company Flush Valves	1
634 Colorado Fuel & Iron Corp., The (Wickwire Spencer Steel Div., The California Wire Cloth Corp.) Wire Fence	78	655 Keyes Fibre Sales Corporation Plastic Tableware	62	677 Spencer Turbine Company Floor Maintenance Equipment	91
635 Connor Lumber & Land Company Maple Flooring	76	656 Laboratory Furniture Company, Inc. Laboratory Furniture	16	678 Tomlinson of High Point, Inc. Institutional Furniture	89
636 Crane Company Plumbing Equipment	81	657 Ludman Corporation Awning Windows	71	679 Vestal, Inc. Floor Maintenance	64
637 Dick Company, A. B. Duplicating Equipment	66	658 Luminall Paints Paints	62	680 Vogel-Peterson Company Coat & Hat Rack	90
638 Ditto, Inc. Duplicating Equipment	73	659 Medart Products, Inc., Fred Gymnasium Apparatus	5	681 Vonnegut Hardware Co., Von Duprin Division Fire & Panic Exit Devices	2
639 Dolge Company, C. B. Floor Maintenance	90	660 Minneapolis-Honeywell Regulator Co. Temperature Controls	2nd Cover	682 Wakefield Brass Company, F. W. School Lighting	65
640 Don & Company, Edward Institutional Equipment	82	661 Monroe Company Folding Tables	84	683 Wayne Iron Works Movable Gymstands	80
641 Dudley Lock Corporation Locks	90	662 Moore, Inc., P. O. Key Control	90	684 Weis Mfg. Company, Inc., Henry Cabinet Showers	78
		663 National Biscuit Company Institutional Food	3rd Cover	685 Witt Cornice Company Refuse Cans	88

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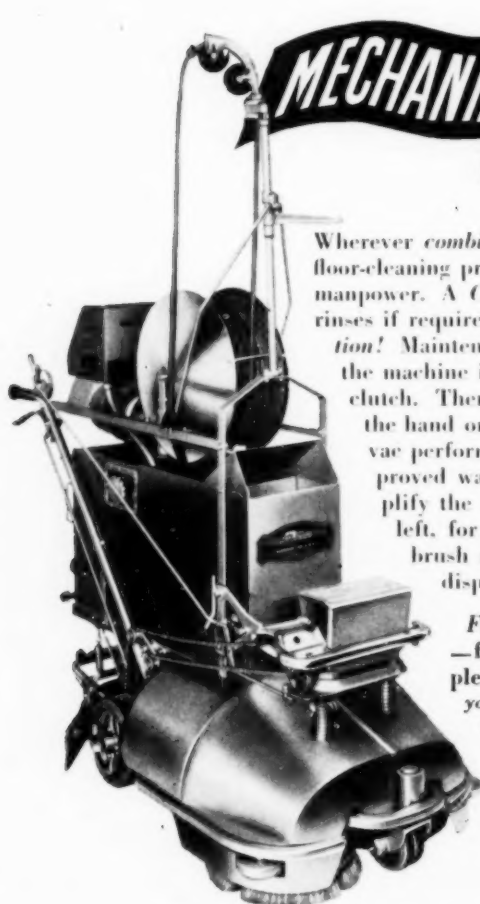
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